BEFORE THE

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,	DOCKETS UE-240006 & UG-240007
Complainant,	
v.	
AVISTA CORPORATION, D/B/A AVISTA UTILITIES,	
Respondent.	

RESPONSE TESTIMONY OF DR. LANCE D. KAUFMAN

ON BEHALF OF

ALLIANCE OF WESTERN ENERGY CONSUMERS

(REDACTED)

July 3, 2024

TABLE OF CONTENTS

EXHIBIT LIST

Kaufman, Exh. LDK-2 – Qualification Statement of Lance D. Kaufman

Kaufman, Exh. LDK-3 – Discovery Responses

Kaufman, Exh. LDK-4– Cost of Service Study

Kaufman, Exh. LDK-5– Cost of Capital Models

I. INTRODUCTION AND SUMMARY

Q. **PLEASE STATE YOUR NAME AND OCCUPATION.**

A. My name is Lance D. Kaufman. I am a consultant representing utility customers before state public utility commissions in the Northwest and Intermountain West. My witness qualification statement can be found at Exhibit LDK-2.

Q. **PLEASE IDENTIFY THE PARTY ON WHOSE BEHALF YOU ARE TESTIFYING.**

A. I am testifying on behalf of the Alliance of Western Energy Consumers ("AWEC"). AWEC is a non-profit trade association whose members are large energy users in the Western United States, including customers receiving electric services from Avista Corp. ("Avista" or "Company).

Q. **WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. I provide testimony on the following items:

- Cost of service;

- Rate spread;

- Rate design; and

- Cost of Capital.

Q. **PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

A. I make the following recommendations:

- Modify the renewable future peak credit calculation to split generation costs with 67.7 percent demand and 32.3 percent energy based on the following changes:

  o A 98 percent effective load carrying capacity ("ELCC").

  o Wind ELCC for Avista's four peak months, December, January, July, and August.

1   o   Value the capacity contribution of wind using an 8-hour battery's capacity cost.

2   o   Average the cost of Northwest wind and Montana wind resources, with 60 percent

3   weight on Montana wind.

4   •   Allocate costs in Federal Energy Regulatory Commission ("FERC") Account 565,

5   Transmission of Electricity by Others, using 12 coincident peaks rather than energy.

6   •   Allocate FERC Account 904 Uncollectable Accounts using a weighted customer count factor

7   where customer counts are weighted by the share of historic net write-offs.

8   •   Directly assign the cost of substations to Schedule 25 customers based on share of capacity

9   rather than share of dedicated distribution feeders.

10 •   Spread revenue changes to rate schedules according to Tables 7 and 8 below.

11 •   Include Schedule 99 Colstrip Tracker revenues in base revenues when spreading revenue

12   changes.

13 •   Increase the Schedule 25 demand charges by 50 percent in Rate Year 1, from $30,650.00 to

14      $45,975.00 for Block 1 and from $8.30 to $12.45 for Block 2. Increase the Schedule 25

15   demand charges by 25 percent in Rate Year 2, from $45,975.00 to $57,468.75 for Block 1 and

16   from $12.45 to $15.56 for Block 2. Adjust all energy block rates by an equal percentage as

17   necessary for Schedule 25 rates to fully recover Schedule 25 revenue requirement. This

18   recommendation is independent of the Commission's ultimate decision regarding Avista's

19   overall revenue requirement and Schedule 25's specific revenue requirement because this

20   change is cost justified at current rates.

21 •   Increase the Schedule 25 greater than 115 kV primary voltage discount from $1.93 to $4.39.

1   o   If AWEC's recommended cost of service study change to allocate the cost of

2   substations to Schedule 25 based on the Schedule 25 customer's share of substation

3   capacity is not adopted, increase the Schedule 115 kV primary voltage discount from

4            $1.93 to $6.10.

5   • Modify the Schedule 25 greater than 115 kV primary voltage discount to be applicable to

6   customers that are served through substations not owned by Avista.

7   • Accept Avista's proposed cost of debt of 4.99 percent and capital structure with 48.5 percent

8   equity and 51.5 percent debt.

9   • Authorize return on common equity of 9.25 percent.

10   **II.   COST OF SERVICE STUDY**

11 **Q.   PLEASE SUMMARIZE YOUR ADJUSTMENTS TO AVISTA'S COST OF SERVICE**
12 **   COST STUDY.**

13 A.   I recommend the following changes be made to Avista's cost of service study

14   1. Modify the renewable future peak credit calculation to split generation costs with 67.7 percent

15   demand and 32.3 percent energy based on the following changes:

16   a. A 98 percent ELCC.

17   b. Wind ELCC for Avista's four peak months, December, January, July, and August.

18   c. Value the capacity contribution of wind using an 8-hour battery's capacity cost.

19   d. Average the cost of Northwest wind and Montana wind resources, with 60 percent

20   weight on Montana wind.

21   2. Allocate costs in Federal Energy Regulatory Commission ("FERC") Account 565,

22   Transmission of Electricity by Others, using 12 coincident peaks rather than energy.

1   3. Allocate FERC Account 904 Uncollectable Accounts using a weighted customer count factor

2   where customer counts are weighted by the share of historic net write-offs.

3   4. Directly assign the cost of substations to Schedule 25 customers based on share of capacity

4   rather than share of dedicated distribution feeders.

5   **a. Renewable Future Peak Credit Calculation**

6 **Q.   WHAT RESOURCES DOES AVISTA USE FOR THE RENEWABLE FUTURE PEAK
7   CREDIT CALCULATION?**

8 A.   Avista uses an 8-hour battery and Northwest Wind.

9 **Q.   WHAT IS YOUR CONCERN WITH AVISTA'S TREATMENT OF THE BATTERY
10   RESOURCE?**

11 A.   Avista assumes the battery has a capacity contribution, or ELCC of 100 percent. However,

12   Avista's Integrated Resource Plan ("IRP") assumes that the ELCC for an 8-hour battery is only

13   98 percent.[1] I adjust battery capital costs to reflect the ELCC percentage assumed in Avista's

14   IRP.

15 **Q.   DO YOU HAVE ANY CONCERNS WITH AVISTA'S CALCULATION OF THE
16   ENERGY COMPONENT OF GENERATION?**

17 A.   Yes. Avista apportions the cost of wind between energy and capacity. However, Avista fails

18   to use the cost of capacity when making this apportionment. Avista simply multiplies the

19   capacity contribution of wind by the capital cost of wind. This approach does not account for

20   the fact that the value of capacity is greater than the capital cost of wind resources. The cost

21   per kW for an 8-hour battery is $260 per kW-year.[2] Each kW of peak capacity need that wind

22   resources provide therefore provides $260 in value. Avista values this capacity at $119 per

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[1]   Avista Response to AWEC DR 82 Attachment A.
[2]   Table 4 below.

1   kW-year.[3] The more accurate method of estimating the capacity value of a wind resource is to

2   multiply the capacity contribution by the cost of capacity, which is derived from the cost of

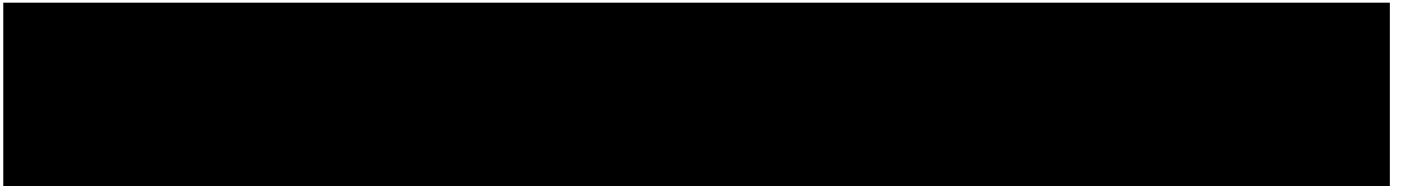3   battery storage.[4]

4 **Q.   WHAT IS THE SOURCE FOR THE COMPANY'S WIND RESOUCE ELCC?**

5 A.   Avista assumes an ELCC of 5.6 percent. This is the January qualifying capacity contribution

6   ("QCC") for generic wind resources in WA zone 1.[5]

7 **Q.   SHOULD AVISTA USE THE JANUARY QCC?**

8 A.   No. Avista should use the IRP ELCC that is effective during months where capacity is

9   constrained. Tables 1 and 2 below illustrates Avista's system peak and resource sufficiency for

10   the next five years.[6]

11 **Table 1: Avista Peak Demand in MW**

12

13 **Table 2: Avista Resource Sufficiency (Deficiency) in MW**

14

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[3]   240006-07-AVA-Exh-MJG-2-01-18-24 sheet Renewable Future Peak Credit row 14. Note that the description in this row at cell F19 indicates an intention to multiply capacity by battery capital cost rather than wind capital cost, indicating Avista's actual formula may unintentionally reference wind costs.

[4]   Garbarino, Exh. MJG-1T at 13: 4-6.

[5]   Avista Response to AWEC Data Request 84. QCC reflects the capacity value that WRAP places on resources when assessing resource adequacy, which serves a similar function as ELCC.

[6]   Avista Response to AWEC Data Request 80.

1   Avista's peak is ███████████████ and Avista's resource deficiency is

2   ███████████████. Avista's IRP selects 200 MW of NW wind in 2030 and

3   200 MW of Montana Wind in 2032.[7] NW Wind provides greater capacity value in summer

4   months and Montana Wind provides greater capacity value in winter months.[8]

5   **Table 3: Wind Effective Load Carrying Capacity**

6

Resource Name	January	February	March	April	May	June	July	August	September	October	November	December
NW Wind On System	8%	11%	13%	10%	10%	19%	22%	18%	13%	10%	10%	9%
Wind Montana	28%	23%	25%	25%	25%	13%	12%	13%	14%	25%	30%	29%

7   The fact that Avista's IRP selects both NW Wind and Montana Wind indicates that Avista's

8   IRP models recognize both resources contribute materially to capacity deficiencies. If Avista's

9   January capacity need was the only factor driving wind acquisition the model would not select

10   NW Wind, which has low capacity values in January.

11   Q.   **ARE AVISTA'S RECENT RESOURCE ACQUISITIONS CONSISTENT WITH A**
12   **SUMMER CAPACITY NEED?**

13   A.   Yes. Avista has recently acquired the summer peaking Montana Clearwater Wind facility and

14   over 100 MW of summer only capacity resources.[9]

15   Q.   **WHAT QCC DO YOU RECOMMEND?**

16   A.   I recommend the QCC for Avista's four peak months, December, January, July, and August, be

17   used.

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[7]   https://www.myavista.com/-/media/myavista/content-documents/about-us/our-company/irp-documents/2023/01prism80expected-case030223prs.xlsm sheet "Selection" cells k104 and M106.

[8]   Avista Response to AWEC DR 82 Attachment A

[9]   Avista Response to AWEC DR 81.

1 **Q. IS IT REASONABLE TO USE ONLY NW WIND WHEN AVISTA'S IRP SELECTS**
2 **BOTH MONTANA AND NW WIND?**

3 A. No. Given that the two wind resources are complementary by meeting different aspects of

4 Avista's energy needs, and are both selected in Avista's IRP, I recommend that both resources

5 be used in the Renewable Future Peak Credit calculations. The table below illustrates the

6 impact of weighting Montana and NW Wind by 60 percent and 40 percent respectively (since

7 Avista has recently acquired the Montana wind resource Clearwater Wind, 100 MW of other

8 summer only resources, and proposes to select equal amounts of Montana and Northwest wind

9 around 2030).

10 **Table 4: Renewable Future Peak Credit**

	Lithium Ion Battery Storage (8 MWh)	Montana	NW Wind	Average	
1	Fixed Cost per kW	245.63	245.63		
2	Cost per MWh Charge	40.38	40.38		
3	Hours of Operation	200	200		
4	Storage Efficiency	88%	88%		
5	Total Fuel & VOM Cost	9.18	9.18		Line 2 / 1000 / Line 4 X Line 3
6	ELCC	0.98	0.98		
7	Total Cost 1 kW, 200 Hours	259.82	259.82	259.82	Line 1 / Line 6 + Line 5
	Wind Turbine (100% PTC- PPA, 44% CF)				
	Weighting	60%	40%		
8	Fixed Cost per kW	125.31	119.46	122.97	
9	Average Output Requirement @ 60.9% Load Factor	5,335	5,335	5,334.84	8,760 X 0.609
10	Capacity Factor	43.8%	32%	0.39	
11	Output	3,833	2,821	3,428	8,760 X Line 10
12	Total kW Capacity Required	1.39	1.89	1.56	Line 9 / Line 10
13	Total Fixed Costs	174.39	225.93	191.35	Line 8 X Line 11
14	4-month ELCC	21%	14%	0.18	
15	Demand Related cost @ 5.6% Capacity Contribution	74.13	70.02	72.78	Line 10 X 23% X Line 1
16	Total Energy Related Cost	100.27	155.91	118.58	Line 12 - Line 13
17	Demand Component	72.2%	62.5%	68.7%	Line 7 / (Line 7 + Line 14)
18	Energy Component	27.8%	37.5%	31.3%	100% - Line 15

11

1	Q.	**WHAT IS YOUR RECOMMENDED ALLOCATION OF GENERATION COSTS**
2		**BETWEEN DEMAND AND ENERGY?**

3   A.   I recommend using the NW Wind and Montana average results from the table above, with 67.7

4   percent of weight on demand and 32.3 percent weight on energy.

5   **b. FERC Account 565 Allocation**

6   Q.   **HOW DOES THE COMPANY ALLOCATE FERC ACCOUNT 565, TRANSMISSION**

7   **OF ENERGY BY OTHERS?**

8   A.   The Company treats these costs as net power costs and allocates them using the energy

9   allocator.[10]

10 Q.   **HOW DOES WAC SECTION 480-85-060 REQUIRE THESE COSTS TO BE**

11   **ALLOCATED?**

12 A.   Table 1 of WAC Section 480-85-060 states that FERC account 565 is to be functionalized to

13   transmission. Table 2 of WAC Section 480-85-060 states that costs functionalized to

14   transmission must be allocated based on 12 coincident peaks.

15 Q.   **WHAT IS YOUR RECOMMENDATION FOR ALLOCATING FERC ACCOUNT 565?**

16 A.   Consistent with applicable regulations, I recommend treatment consistent with WAC Section

17   480-85-060 and that these costs be allocated using 12 coincident peaks.

18 **c. FERC Account 904 Allocation**

19 Q.   **HOW DOES THE COMPANY ALLOCATE FERC ACCOUNT 904**

20   **UNCOLLECTABLE ACCOUNTS?**

21 A.   Avista allocates these costs based on revenues.

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[10]   Avista Response to AWEC DR 85.

1 **Q.   HOW DOES WAC 480-85-060 REQUIRE THESE COSTS TO BE ALLOCATED?**

2 A.   Table 2 of WAC Section 480-85-060 requires these costs to be allocated based on weighted

3   customer counts.

4 **Q.   WHAT IS YOUR RECOMMENDATION FOR ALLOCATING FERC ACCOUNT 904?**

5 A.   Consistent with applicable regulations, I recommend weighting customer counts based on the

6   average share of residential and non-residential net write offs. The average net write-offs are

7   summarized below.[11]

8 **Table 4: Net Write Offs by Class**

Washington Electric	2019	2020	2021	2022	2023	2024	Total	Percent
Residential	1,844	1,168	1,023	1,797	4,433	1,190	11,455	83.4%
Commercial	178	175	421	538	824	145	2,281	16.6%
Total	**2,022**	**1,343**	**1,444**	**2,335**	**5,257**	**1,335**	**13,736**	

9

10 **d. FERC Accounts 361 and 362 Allocation.**

11 **Q.   HOW DOES AVISTA ALLOCATE DISTRIBUTION ACCOUNTS 361 AND 362?**

12 A.   Avista directly assigns costs to Schedule 25 based on the fraction of feeders serving Schedule

13   25 customers when dedicated feeders exist at the substation, and assigns costs based on

14   Schedule 25 customer share of capacity when there are no dedicated feeders.

15 **Q.   DOES THE SHARE OF DEDICATED FEEDERS REFLECT A SCHEDULE 25**
16 **CUSTOMERS' SHARE OF THESE FACILITIES?**

17 A.   Not necessarily. A customer with a dedicated feeder may be using more or less of a substation

18   than the share of feeders serving it. This is because not all feeders are created equal. For

19   example, if a substation with two feeders has a capacity of 20 MW, but the customer with the

20   dedicated feeder has peak demand of 15 MW, the customer utilizes 75 percent of the substation

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[11]   Avista Response to AWEC DR 90.

1 but only 50 percent of the feeders. Similarly, if the customer only has peak demand of 5 MW

2 the customer only uses 25 percent of the substation's capacity.

3 **Q.** **WHAT IS YOUR RECOMMENDATION FOR ALLOCATING FERC ACCOUNTS 361**
4 **AND 362?**

5 A. I recommend assigning costs for all substations serving Schedule 25 customers based on the

6 share of capacity rather than feeder count.

7 **e. Results of Cost of Service Study Recommendations**

8 **Q.** **WHAT IS THE IMPACT OF YOUR RECOMMENDATIONS ON AVISTA'S COST OF**
9 **SERVICE STUDY?**

10 A. Table 6 below summarizes the results of making these changes to Avista's cost of service

11 study, while retaining Avista's filed revenue requirement. Avista's filed revenue requirement

12 is retained only to provide an apples to apples comparison of my model with Avista's model.

13 **Table 6: AWEC Cost of Service Study Results**

	Residential Service Sch 1	General Service Sch 11-12	Large Gen Service Sch 21-22	Extra Large Gen Service Sch 25	Pumping Service Sch 31-32	Street & Area Lights Sch 41-48	General Service EV Sch 13	Large Gen Service EV Sch 23	Total
Rate Base	1,326,624,080	315,223,083	447,546,969	122,171,544	53,505,936	41,781,049	838,940	2,125,400	2,309,817,000
Proposed Rate of Return	7.61%	7.61%	7.61%	7.61%	7.61%	7.61%	7.61%	7.61%	7.61%
Return Requirement	100,956,624	23,988,603	34,058,504	9,297,304	4,071,823	3,179,555	63,844	161,744	175,778,000
Total Operating Expenses	253,324,451	61,883,456	89,830,135	31,724,859	10,109,561	4,420,610	111,598	268,331	451,673,000
Present Revenue from Rates	279,948,547	89,664,262	132,450,374	46,296,167	13,579,033	7,407,959	48,212	64,445	569,459,000
Net Income From Present Rates	26,624,096	27,780,806	42,620,239	14,571,308	3,469,472	2,987,350	(63,386)	(203,886)	117,786,000
Net Income Deficiency (Sufficiency)	73,296,999	(4,047,778)	(9,044,113)	(5,493,408)	560,021	200,081	127,333	365,946	55,965,081
Incremental Revenue Related Expenses	4,178,946	(120,443)	(274,783)	(235,431)	55,184	27,356	7,553	21,618	3,660,000
Incremental Income Taxes	14,147,231	593,446	432,575	(260,831)	261,498	168,308	19,297	54,475	15,416,000
Total Cost/Revenue Requirement at Unity	371,186,080	85,999,000	123,435,000	40,270,000	14,440,000	7,792,000	202,000	506,000	643,830,080
Revenue-to-Cost Ratio at Present Rates	0.75	1.04	1.07	1.15	0.94	0.95	0.24	0.13	0.88
Parity Ratio at Present Rates	0.85	1.18	1.21	1.30	1.06	1.07	0.27	0.14	1.00

14

15 **III.   RATE SPREAD**

16 **Q.** **WHAT STANDARD DO YOU RECOMMEND APPLYING FOR RATE SPREAD?**

17 A. I recommend adopting Staff's recent practice of characterizing deviations from rate parity of

18 less than 0.05 as within the margin of error, more than 0.1 as unreasonable, more than 0.2 as

1   excessive, and deviations more than 0.3 as grossly excessive.[12] Schedules with grossly

2   excessive parity ratios should be given 25 percent of average rate increases and 200 percent of

3   average rate decreases. Schedules with excessive parity ratios should be given 50 percent of

4   average rate increase and 150 percent of average rate decreases. Schedules with unreasonable

5   parity ratios should be given 75 percent of average rate increases and 125 percent of average

6   rate decreases.

7   **Q.   WHAT RATE SPREAD DO YOU PROPOSE?**

8   A.   My recommended rate spread is summarized below. I provide recommendations for both rate

9   decreases, as advocated by AWEC witness Mr. Mullins in Rate Year 1 ("RY1"), and for rate

10   increases as advocated by Avista. Please note that, as AWEC's testimony recommends a rate

11   decrease for Rate Year 1, the percentages below for Rate Year 1 are percentage allocations of

12   that decrease. If the Commission authorizes an increase for Rate Year 1, the column labeled

13   "RY2 Increase" should be applied to Rate Year 1. Colstrip costs and revenues should be

14   included when calculating the average change in revenue requirement.

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[12]   Dockets UE-200900, UG-200901, UE-200894 Jordan, Exh. ELJ-1T page 10, Table 1.

1   **Table 7: Recommended Electric Rate Change as Percent of Average**

| | Current Parity Ratio | | Percent of Average Change | |
	Avista	AWEC	RY1 Decrease	RY2 Increase
Residential Service Sch 1	0.86	0.85	51%	150%
General Service Sch 11-12	1.18	1.18	125%	75%
Large Gen Service Sch 21-22	1.21	1.21	150%	50%
Extra Large Gen Service Sch 25	1.20	1.30	200%	25%
Pumping Service Sch 31-32	1.05	1.06	100%	100%
Street & Area Lights Sch 41-48	1.06	1.08	100%	100%
General Service EVSch 13	0.27	0.27	0%	200%
Large Gen Service EVSch 23	0.14	0.14	0%	200%

2

3   **Table 8: Recommended Gas Rate Change as Percent of Average**

	Current Parity Ratio	Percent of Average Increase
Gen Svc Schedule 101	0.97	100%
Large Gen Svc Schedule 111	1.21	50%
Interruptible Schedule 131	1.34	25%
Transport Schedule 146	0.74	150%

4

5   **Q.   HOW ARE THE PERCENTAGE INCREASES IN THE ELECTRIC RATE SPREAD**
6   **TABLE ABOVE TO BE APPLIED?**

7   A.   The electric rate increase for each schedule is calculated in the following manner:

8   1.   The average rate increase should be calculated by dividing the total revenue requirement

9   increase, including Colstrip costs, by present base rate and Schedule 99 revenues for the

10   corresponding rate year.

11   2.   The Percentage of Average Change from Table 7 is multiplied by the overall rate increase from

12   step 1 to determine the percentage increase for each schedule.

1   3. Each schedules' percentage increase from step 2 is multiplied by the schedule's present base

2   rate and Schedule 99 revenues to determine the combined revenue requirement for the rate

3   year.

4   4. Any overall residual revenue requirement, calculated as the difference between the revenues in

5   step 3 and the overall revenue change, is spread to each schedule proportional to the amounts

6   in step 3.

7   5. Base rates and Schedule 99 rates are updated to recover the revenue identified in step 3.

8   Q.   **WHY ARE YOU PROVIDING DETAILED INFORMATION ON HOW TO APPLY**
9   **YOUR RATE SPREAD RECOMMENDATIONS?**

10   A.   Avista's rate spread has typically included consideration of Colstrip costs and rate impacts.

11   However, due in part to uncertainty regarding Colstrip's closure and costs, Colstrip was

12   removed from base rates in Avista's last rate case. The Schedule 99 Colstrip Tracker was

13   agreed to as a component of a larger settlement agreement that included consideration of

14   overall rate spread. Once Colstrip costs are fully recovered the Schedule 99 rates will decrease

15   or be reduced to zero. When this occurs, the revenue recovered from customers will reduce. If

16   the Colstrip Tracker had not been agreed to in settlement, this reduction would have occurred

17   in base rates, and been subjected to overall rate spread decisions. It is therefore appropriate to

18   account for Colstrip revenues when spreading revenue changes to Avista's service schedules.

19   I am concerned that without specifying treatment of Schedule 99 revenues, the

20   Commission may overlook the rate impacts of the Colstrip tracker retiring, which could result

21   in abnormal and unintended overall rate impacts. This issue is illustrated in the Company's

22   filed case. Exhibit JDM 4, page 1, column l shows that in Rate Year 2, after accounting for

1   Colstrip impacts, the residential rate change is below average, moving this schedule further

2   from rate parity.

3 **Q. CAN YOU ILLUSTRATE THIS PROCESS USING THE COMPANY'S FILED**
4 **REVENEUS FOR RATE YEAR 2?**

5 A.   Yes. The following table illustrates this process. Note that this table is illustrative only and

6   does not reflect AWEC's proposed revenue requirement.

7 **Table 9: Application of AWEC Rate Spread Recommendation**

No.	Type of Service	Schedule Number	Base Tariff Plus Sch 99 Under Present Rates	Percentage of Base Increase	Grpss Up	**Revenue Percent Increase**	Proposed Base Tariff Increase	Colstrip Revenue Change	Proposed Base Tariff With Revenue
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(k)
1	Residential	1	$333,428	125%	97%	10.91%	$53,299	($16,919)	$369,809
2	General Service	11/12	$103,563	75%	58%	6.55%	$8,969	($2,189)	$110,342
3	Transportation - General Service	13	$56	200%	155%	17.46%	$11	($1)	$65
3	Large General Service	21/22	$152,997	50%	39%	4.36%	$9,926	($3,248)	$159,675
5	Transportation - Large General Service	23	$74	200%	155%	17.46%	$14	($1)	$87
4	Extra Large General Service	25	$52,922	25%	19%	2.18%	$1,732	($578)	$54,077
5	Extra Large General Service - Contract	25I	$24,051			3.24%	$772	($254)	$24,569
6	Pumping Service	30/31/32	$16,162	100%	77%	8.73%	$2,220	($809)	$17,573
7	Street & Area Lights	41-48	$8,795	100%	77%	8.73%	$1,188	($420)	$9,563
8	Total		$692,049			11.29%	$78,130	($24,419)	$745,760

9 **Q. DOES YOUR RATE SPREAD PROVIDE MORE MOVEMENT TOWARDS PARITY**
10 **THAN AVISTA'S RATE SPREAD?**

11 A.   Yes. The table below compares the parity ratio using Avista's proposed rate spread, which

12   would yield an equal percent rate increase, and AWEC's proposed rate spread using the

13   percentages discussed above.[13]

14 **Table 10: Proposed Parity Ratio**

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[13]   This comparison assumes Avista's filed revenue requirement. The pattern of non-movement towards parity under
        Avista's rate spread and movement under my proposed rate spread holds alternate revenue requirements changes,
        including revenue decreases.

	Proposed Parity Ratio	
	Avista	AWEC
Residential Service Sch 1	0.85	0.90
General Service Sch 11-12	1.18	1.14
Large Gen Service Sch 21-22	1.21	1.14
Extra Large Gen Service Sch 25	1.30	1.18
Pumping Service Sch 31-32	1.06	1.06
Street & Area Lights Sch 41-48	1.07	1.07
General Service EVSch 13	0.27	0.30
Large Gen Service EVSch 23	0.14	0.16

1

2 **Q.   DOES AVISTA'S PROPOSED RATE SPREAD MOVE RATES TOWARDS PARITY?**

3 A.   No, Avista's equal percent rate of rate increase does not move schedules towards rate parity.

4 **Q.   DOES YOUR PROPOSED RATE SPREAD MOVE RATES TOWARDS PARITY?**

5 A.   Yes. Under my proposal, all schedules with unreasonable or greater deviations from rate parity

6   move towards rate parity.

7 **Q.   WHY IS IT IMPORTANT THAT RATE SCHEDULES BE AT OR NEAR PARITY?**

8 A.   Schedules that are far from parity are either subsidizing other customer classes or are being

9   subsidized by other customer classes. This is not only inequitable for these customer classes

10   but is also inefficient as it does not send correct price signals to customers in these classes.

11   Furthermore, when classes are far from parity, taking no action to bring them closer to parity

12   risks exacerbating these problems in future cases. This creates a situation where two principles

13   of ratemaking may be in conflict, specifically the principle of setting rates based on cost of

14   service and the principle of gradualism. If rate schedules become too far from parity (as I

15   would argue they already are at least for Schedule 25), their rates are no longer based on the

16   cost to serve these customers, but at the same time moving these schedules close to parity

17   immediately could result in significant price swings. That is why it is important to make

1   incremental progress in moving schedules toward parity in each rate case if some schedules are

2   outside of the band of reasonableness, as is the case with Avista.

IV.   RATE DESIGN

4   **Q.   DO YOUR RATE DESIGN RECOMMENDATIONS AFFECT ANY SCHEDULES**
5   **OTHER THAN SCHEDULE 25?**

6   A.   No. Rate design only affects how the revenue assigned to schedules is collected, it does not

7   affect the total revenue collected from the schedule. My rate design recommendations are

8   limited to Schedule 25 and are revenue neutral, so the rates of other schedules are not affected.

9   The Schedule 25 special contract rates are designed separately from Schedule 25 rates and my

10   recommendations do not affect the Schedule 25 special contract rate design.

11   **Q.   WHAT RATE DESIGN RECOMMENDATIONS DO YOU MAKE?**

12   A.   I make the following rate design recommendations:

13   • Increase the Schedule 25 demand charges by 50 percent in Rate Year 1, from $30,650.00 to

14   $45,975.00 for Block 1 and from $8.30 to $12.45 for Block 2. Increase the Schedule 25

15   demand charges by 25 percent in Rate Year 2, from $45,975.00 to $57,468.75 for Block 1 and

16   from $12.45 to $15.56 for Block 2. Adjust all energy block rates by an equal percentage as

17   necessary for Schedule 25 rates to fully recover Schedule 25 revenue requirement. This

18   recommendation is independent of the Commission's ultimate decision regarding Avista's

19   overall revenue requirement and Schedule 25's specific revenue requirement because this

20   change is cost justified at current rates.

21   • Increase the Schedule 25 greater than 115 kV primary voltage discount from $1.93 to $4.39.

22   o   If AWEC's recommended cost of service study change to allocate the cost of

23   substations to Schedule 25 based on the Schedule 25 customer's share of substation

1   capacity is not adopted, increase the Schedule 115 kV primary voltage discount from

2       $1.93 to $6.10.

3   • Modify the Schedule 25 greater than 115 kV primary voltage discount to be applicable to

4   customers that are served through substations not owned by Avista.

5 **Q.**   **WHY DO YOU RECOMMEND INCREASING THE SCHEDULE 25 ENERGY AND**
6   **DEMAND CHARGES FOR ALL BLOCKS BY EQUAL AMOUNTS?**

7 A.   Avista is facing increasing demand costs as part of the transition to carbon neutral generation.

8   Under the Company's cost of service study and the Company's current return (i.e. before

9   accounting for revenue requirement increases), the Schedule 25 total demand cost is $30

10   million[14] or $26.51 per kW.[15] Under AWEC's cost of service study the Schedule 25 total

11   demand cost is $32 million. However, Avista's proposed rates only recover $12.9 million.[16]

12   Even if Avista receives no overall revenue requirement increase, it is cost justified to increase

13   the Schedule 25 demand charge. I recommend increasing the Schedule 25 demand charges by

14   50 percent in Rate Year 1, from $30,650 to $45,975.00 for Block 1 and from $8.30 to $12.45

15   for Block 2. I recommend increasing the Schedule 25 demand charges by 25 percent in Rate

16   Year 2, from $45,975.00 to $57,468.75 for Block 1 and from $12.45 to $15.56 for Block 2.

17   This will result in Avista collecting $23.8 million in demand charges by Rate Year 2, slightly

18   less than current costs.

19   To account for the increase in demand charges, I also recommend that each energy

20   block in Schedule 25 be adjusted by an equal percentage as necessary to reflect the Schedule

21   25 revenue requirement. For example, under Avista's filed revenue requirement and rate

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[14]   240006-07-AVA-Exh-MJG-2-01-18-24.xlsx Sheet "Summary" cell G238.
[15]   240006-07-AVA-Exh-MJG-2-01-18-24.xlsx Sheet "Summary" cell G250.
[16]   240006-07-AVA-Exh-JDM-4-RY1-01-18-24 Sheet "Pres & Prop Rev" cells I170 to I173.

1   spread, Schedule 25 energy block rates would decrease by 0.9 percent according to the table

2   below.

3   **Table 11: Energy Block Rate Decrease Under Avista Proposed Revenue and AWEC Demand**

4   **Charges**

Block	Current Rate	RY1 Rate
BLOCK 1 PER KWH	5.895¢	5.842¢
BLOCK 2 PER KWH	5.294¢	5.246¢
BLOCK 3 PER KWH	4.320¢	4.281¢

6 **Q.   WHY DO YOU RECOMMEND INCREASING THE PRIMARY VOLTAGE RATE**
7 **DISCOUNT FOR 115 KV IN SCHEDULE 25 TO $4.39 PER KW?**

8 A.   The purpose of the primary voltage discount is to reflect the reduced cost of service for

9   customers that are not served by Avista-owned distribution facilities. The discount should be

10   sufficient to ensure that all distribution costs are collected from customers that receive service

11   through Avista-owned distribution facilities. Avista's cost of service model shows Schedule

12   25 distribution costs of $8.2 million,[17] or $6.10 per kW, while my cost of service model shows

13   distribution costs of $5.9 million, or $4.39 per kW. I recommend a discount of $4.39 to

14   provide a discount consistent with AWEC's proposed cost study.

15 **Q.   IF THE COMMISSION DOES NOT ADOPT YOUR RECOMMENDED COST OF**
16 **SERVICE STUDY TREATMENT OF DIRECT ASSIGNMENT OF SUBSTATION**
17 **COSTS, DO YOU HAVE AN ALTERNATE RECOMMENDATION FOR THE 115 KV**
18 **DISCOUNT?**

19 A.   Yes. If my recommended cost assignment for substations, discussed above, is not adopted, I

20   recommend the >115 kV discount be set to Avista's cost study of $6.10 per kW. This is

21   because Avista's cost model, which assigns more distribution costs to Schedule 25, requires a

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[17]   240006-07-AVA-Exh-MJG-2-01-18-24 Sheet "Summary" cell G154.

1   larger primary voltage discount to offset these costs for customers that do not receive service

2   through Avista's distribution system.

3   **Q.   DOES YOUR PRIMARY VOLTAGE DISCOUNT RECOMMENDATION AFFECT**
4   **THE RATES FOR SCHEDULE 25 CUSTOMERS THAT DO NOT RECEIVE THE 115**
5   **KV DISCOUNT?**

6   A.   No. Typically, changing one component of rate design, such as the >115 kV discount, requires

7   offsetting adjustments for other charges, such as demand and generation charges, to keep the

8   changes revenue neutral. However, Avista's filed case does not include any customers who

9   would receive this discount.[18] This means that the Commission has a unique opportunity to

10   bring rates closer to cost without negatively affecting any customers. In such a scenario,

11   gradualism is not necessary, and rates should move directly to cost.

12   **Q.   REGARDLESS OF WHETHER YOUR RECOMMENDED CHANGE TO THE**
13   **AMOUNT OF THE 115 KV DISCOUNT IS ADOPTED, SHOULD THE COMMISSION**
14   **MAKE ANY OTHER CHANGES TO THE SCHEDULE 25 115 KV DISCOUNT?**

15   A.   Yes. The eligibility for this discount should be expanded to customers that are served through

16   a substation that Avista does not own.

17   **Q.   WHAT IS THE PURPOSE OF THE GREATER THAN 115 KV PRIMARY VOLTAGE**
18   **DISCOUNT IN SCHEDULE 25?**

19   A.   Customers served at more than 115 kV receive energy at transmission voltage, and thus do not

20   receive service from Avista-owned substations or distribution lines. The same principle is true

21   of customers who are served by Avista, but through a substation Avista does not own,

22   regardless of the voltage at which they take service from Avista. These customers should not

23   be charged distribution costs because they are not served by distribution facilities and do not

24   cause distribution costs. The greater than 115 kV voltage discount removes these costs from

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[18]   240006-07-AVA-Exh-JDM-4-RY1-01-18-24 sheet "WA Sch 25" row 106.

1   these customers' rates. My recommendation adheres to the cost causation principle, whereby

2   costs are paid by those who cause them to be incurred, as recognized by the Commission.[19]

3   **Q.   IS IT POSSIBLE FOR AVISTA TO PROVIDE SERVICE TO CUSTOMERS AT**
4   **LOWER VOLTAGES WHILE STILL NOT INCURRING DISTRIBUTION COSTS?**

5   A.   Yes, if Avista serves a customer through a substation not owned by Avista, but meters the

6   customer at voltage below 115 kV, Avista would still not incur distribution costs.

7   **Q.   IF TWO CUSTOMERS CAUSE AVISTA TO INCUR THE SAME COSTS, IS IT FAIR**
8   **FOR THE CUSTOMERS TO FACE DIFFERENT RATES?**

9   A.   No, this is not fair. Customers that cause similar costs should have similar rates.

10   **Q.   WHAT CHANGES DO YOU RECOMMEND TO THE LANGUAGE OF SCHEDULE**
11   **25 TO REMEDY THIS UNFAIR TREATMENT?**

12   A.   I recommend changing the applicable section of the Schedule 25 tariff to read (underlined

13   language is added):

14   "Primary Voltage Discount:

15   If Customer takes service at:

16   …

17   3) 115 kV (wye grounded) or higher, <u>or is served through a substation that is not owned</u>

18   <u>by the Company,</u> he will be allowed a primary voltage discount of $[TBD] per kVa of

19   demand per month."

20   This language broadens eligibility for the >115 kV discount to customers that have the

21   same cost impacts as those currently eligible. Note that I have left the amount of the discount

22   blank to recognize that this change should be adopted regardless of whether my recommended

23   increase to the 115 kV discount is also adopted.

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[19]   *See* Docket Nos. UE-180418 and UG-180419, Order No. 01 at 6, para. 24 (July 30, 2018).

V. COST OF CAPITAL

1

2 **Q. PLEASE SUMMARIZE YOUR COST OF CAPITAL RECOMMENDATION.**

3 A. I recommend the Commission accept Avista's proposed cost of debt of 4.99 percent and capital

4 structure with 48.5 percent equity and 51.5 percent debt.[20] I recommend Avista's Cost of

5 Capital be reduced from the current authorized amount of 9.4 to 9.25 percent. This

6 recommendation is based on an analysis of current market conditions and investor

7 expectations. Investors currently expect the U.S. equity market to have total annual returns of

8 4 to 8 percent.[21] When considering the Company's proposed proxy group of comparable

9 investments, my cost of capital models support an ROE in the range of 8.3 to 9.3 percent. This

10 range exceeds investor expectations for the market as a whole because I include numerous

11 conservative assumptions in my model to ensure that my recommended range provides an ROE

12 well above that required by investors. This conservative approach is responsive to the

13 Company's concerns about credit ratings and provides investors with incentive to continue

14 investing in Avista.[22]

15 **Q. HOW DO YOU ESTIMATE COST OF CAPITAL?**

16 A. I estimate cost of capital using discounted cash flow ("DCF") models and capital asset pricing

17 models ("CAPM"). These models are the only cost of capital models commonly used in utility

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[20] Christie, Exh. KJC-1T at 14, Table 2.

[21] John Bilton, Karen Ward, & Monica Issar. *2024 Long-Term Capital Market Assumptions*, at 12 Exh. 7, https://am.jpmorgan.com/content/dam/jpm-am-aem/global/en/insights/portfolio-insights/ltcma/noindex/ltcma-full-report.pdf.; David J. Kostin, et. al *2024 US Equity Outlook:"All You Had to Do Was Stay"*, at 1, https://www.goldmansachs.com/intelligence/pages/gs-research/2024-us-equity-outlook-all-you-had-to-do-was-stay/report.pdf, Lisa Shalett. *2024 U.S. Stock Market Outlook: A Time for Balance* (2024) https://www.morganstanley.com/ideas/us-stock-market-outlook-2024, Emre Erdogan & Seth McMoore, Schwab's 2024 *Long-Term Capital Market Expectations Schwab* (2024), https://www.schwab.com/learn/story/schwabs-long-term-capital-market-expectations.

[22] Christie, Exh. KJC-1T at 10: 2-6.

1   regulation that are also supported by peer reviewed research. I use model inputs that reflect

2   investor expectations regarding market returns and long term growth. My testimony below

3   provides further detail on my methodology and how it meets regulatory standards for fair

4   return on equity.

5 **Q.**   **WHAT ARE THE RESULTS OF YOUR COST OF CAPITAL MODELS?**

6 **A.**   The table below summarizes the results of my cost of capital models.

7 **Table 12: Cost of Capital Model Results**

Method	Average	
CGDCF		
Value Line	8.8%	
IBES	8.5%	
Zacks	9.0%	
Internal br + sv	9.0%	
Average	8.8%	
3SDCF		
Value Line	9.1%	
IBES	8.9%	
Zacks	9.3%	
Average	9.1%	
CAPM	**Not Size Adj.**	**Size Adj.**
Avista ERP	9.2%	
Kroll ERP	7.9%	8.3%
ECAPM		
Avista ERP	9.8%	
Kroll ERP	8.3%	

8

9   When the low (CAPM Kroll ERP Without Size Adjustment) and high (ECAPM with Avista

10   ERP) cost estimates are excluded, the remaining models estimate a cost of capital range from

11   8.3 percent to 9.3 percent.

| 1 | **Q.** | **WHY DO YOUR COST OF CAPITAL MODEL RESULTS DIFFER FROM THE** |
| 2 | | **COMPANY'S RESULTS?** |

3   A.   My results differ because I exclude two models that are not consistent with financial theory,

4   and I use model inputs that more accurately represent investor expectations. I do not

5   recommend the Commission give weight to the Risk Premium[23] or Expected Earnings[24]

6   models, as these models are not consistent with financial theory and are not grounded in

7   market outcomes.[25] As such, they do not reflect the returns that investors expect for

8   comparable investments.

9   I make the following changes to the Company's assumptions:

10   •   Avista assumes that short term earnings growth forecasts persist indefinitely. I assume short

11   term earnings growth converges to the long run GDP growth rate from 5 to 25 years in a linear

12   manner. It is mathematically implausible for firms to indefinitely grow at a rate greater than

13   the GDP growth rate.

14   •   Avista assumes that utility stock betas will move towards 1. I assume that utility stock betas

15   will move towards the industry average over time.

16   •   Avista does not account for abnormal impacts of COVID on beta forecasts. I exclude weeks

17   with market returns more than 3 standard deviations from mean weekly returns.

18   •   Avista assumes that the equity risk premium is 7.3 percent.[26] I use a range for the equity risk

19   premium from 5 to 6.9 percent.

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[23]   Mckenzie, Exh. AMM-3 at 23.

[24]   Mckenzie, Exh. AMM-3 at 26.

[25]   In addition, these models have no support by peer reviewed research and FERC has indicated an intention not to use these models in estimating return on equity. Inquiry Regarding the Commission's Policy for Determining Return on Equity, Policy Statement, 171 FERC ¶ 61,155 (2020) ("Policy Statement") at 45 and 48.

[26]   Mckenzie, Exh. AMM-9.

1   •   Avista assumes that Kroll's size premium model can be combined with the ECAPM model. I

2   exclude size premium adjustments from the ECAPM model.

3   •   I do not make any changes to Avista's proxy group, and I do not update market data from

4   Avista's filing.

5 **Q.**   **WHY DO YOU NOT MAKE ANY CHANGES TO THE PROXY GROUP AND**
6   **MARKET DATA?**

7 A.   I prefer to focus the Commission's attention on a few fundamental model changes. Keeping

8   Avista's proxy group and market data allows an apples-to-apples comparison of my

9   recommended changes against the Company's filing. In addition, some of the Company's

10   model inputs are proprietary. Finally, it is inconsistent to mix inputs from different periods.

11 **Q.**   **WHAT ARE THE STANDARDS FOR DETERMINING FAIR AND REASONABLE**
12   **COST OF EQUITY?**

13 A.   *Hope*[27] and *Bluefield*[28] establish the following standards for determining whether a return on

14   equity is fair and reasonable: whether the return is consistent with returns expected by

15   investors for other investments of comparable risks, whether the return is adequate to maintain

16   credit when the company is efficiently managed, and whether the return is sufficient to enable

17   the company to attract capital. *Hope* and *Bluefield* also establish that the authorized return on

18   equity controls whether rates are reasonable, not the methodology applied.

19 **Q.**   **HOW DO YOU APPLY THESE STANDARDS?**

20 A.   I apply these standards by considering the return investors expect from comparably situated

21   utilities, considering whether such utilities, when prudently managed, maintain investment

22   grade credit ratings, and whether such utilities are capable of attracting capital.

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[27]   *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).
[28]   *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

| 1 | Q. | **DO THE FIRMS IN AVISTA'S PROXY GROUP, WHICH YOU ADOPT, MEET THIS** |
| 2 | | **STANDARD?** |

3   A.   Yes. All of the firms in the proxy group have investment grade credit ratings,[29] and are

4   attracting capital. As United States vertically integrated electric utility companies, these

5   companies have comparable risk to Avista. Thus, the returns that investors expect from these

6   assets satisfy the *Hope* and *Bluefield* standards. It is possible that a different proxy group can

7   also meet this standard to an equal or greater degree, but I have not investigated whether this is

8   the case.

9   Q.   **DO DCF AND CAPM COST OF EQUITY MODELS MEASURE THE RETURNS**

10   **THAT INVESTORS EXPECT FROM THE PROXY GROUP?**

11   A.   Yes. The DCF and CAPM models are based on publicly available market data and forecasts.

12   Thus, the model results estimate the investment returns that investors expect. These models

13   are forward looking. The inputs that I use reflect investor expectations about the future rather

14   than the past, including expected interest rates, inflation rates, stock market performance, and

15   utility industry performance.

16   Q.   **CAN YOU DIFFERENTIATE BETWEEN EXPECTED RETURNS THAT ARE**

17   **NECESSARY TO ATTRACT CAPITAL AND FORECASTED RETURNS?**

18   A.   Historically, equities have had a wide range of returns, with the overall market returns from

19   negative 40 percent annual returns to positive 50 percent annual returns. During recessions,

20   investors may expect the stock market to have negative returns. But it would be unwise to

21   authorize a negative cost of equity in such situations. Similarly, economically stimulating

22   events such as corporate tax cuts or COVID cash stimulus will cause expected market returns

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[29]   All firms have S&P credit rating above BBB-, which is the threshold for investment grade. 240006-07-AVA-Exh-AMM-4-14-01-18-24 Sheet "Proxy Group Criteria".

1   to be abnormally high, however such situations do not warrant abnormally high authorized

2   ROEs. The investment institution, Morgan Stanley, forecasted 2024 equity returns of only 4

3   percent.[30] I do not use Morgan Stanley's forecast in my analysis because it reflects what

4   inspectors forecast for 2024, not the return that investors expect over multiple years. A fair

5   return is therefore not the forecasted return. Rather, authorized ROE should reflect a level of

6   return investors expect to receive on an on-going basis that is sufficient to make the investor

7   contribute capital (i.e. purchase stock) in the company. This is grounded in how investors

8   expect equity markets to perform consistently over multiple years rather than a single year.

9 **Q.   HOW DO INVESTORS EXPECT THE U.S. STOCK MARKET TO PERFORM?**

10 A.   Investors expect future performance of the U.S. stock market to fall short of historic returns.

11   Investors have consistently had this expectation over the last 20 years, despite recent years

12   where the stock market or utility equities have over or under performed.[31]

13 **Q.   HOW DOES THE *HOPE* AND *BLUEFIELD* STANDARD – THAT THE**
14 **AUTHORIZED ROE CONTROLS WHETHER RATES ARE FAIR AND**
15 **REASONABLE, NOT THE METHODOLOGY – INFORM THE PRESENT**
16 **DISCUSSION?**

17 A.   One of the *Hope* and *Bluefield* standards is that the authorized ROE controls whether rates are

18   fair and reasonable, not the methodology used to establish the ROE. This means that the

19   Commission should consider not only the appropriateness of the method that parties used to

20   arrive at an ROE, but also, the reasonableness of the recommended ROE itself independent of

21   the method. Cost of capital witness opinions differ with respect to which models are relevant,

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[30]   Lisa Shalett. *2024 U.S. Stock Market Outlook: A Time for Balance* (2024).
        https://www.morganstanley.com/ideas/us-stock-market-outlook-2024.
[31]   Laurence B. Siegel and Paul Mccaffrey Editors (2023) Revisiting the Equity Risk Premium *CFA Institute Research Foundation* at vi- ix.

1   and what inputs to use for these models. The length and complexity of cost of capital

2   testimony can make judging and evaluating the fairness of methodology difficult. In this

3   testimony, I attempt to simplify the discrepancies between me and the Company by focusing

4   on the five main differences between my models and the Company's.[32] The ultimate question

5   for the Commission is whether the proposed ROE is fair and reasonable, not whether the

6   models are fair and reasonable. While the justification of models and inputs are important, the

7   Commission can also evaluate the ROE independently from evaluating the models. Cost of

8   capital models are simply mathematical approaches to estimating the returns expected by

9   investors for investments of comparable risk. In addition to considering these models, the

10   Commission can directly evaluate whether the ROE is consistent with returns that investors for

11   investments of comparable risk and whether it is sufficient to attract capital on reasonable

12   terms.

13 **Q.   DOES YOUR RECOMMENDATION MEET INVESTOR RETURN EXPECTATIONS?**

14 A.   Yes. My recommendation results in returns that are somewhat higher than investor

15   expectations. However, my recommendation is closer to investor expectation than the

16   Company's proposal. JP Morgan's 2024 forecasted return for US large cap equity returns is

17   7.0 percent.[33] Goldman Sachs forecasts a 2024 total return on the S&P 500 of 6 percent.[34]

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[32]   These differences are described in detail below.

[33]   John Bilton, Karen Ward, & Monica Issar. *2024 Long-Term Capital Market Assumptions*, at 12, Exh. 7, https://am.jpmorgan.com/content/dam/jpm-am-aem/global/en/insights/portfolio-insights/ltcma/noindex/ltcma-full-report.pdf.

[34]   David J. Kostin, et. al. *2024 US Equity Outlook*: *All You Had to Do Was Stay*, at 1, https://www.goldmansachs.com/intelligence/pages/gs-research/2024-us-equity-outlook-all-you-had-to-do-was-stay/report.pdf

| 1 | Morgan Stanley forecasts 2024 equity returns of 4 percent.[35] Charles Schwab forecasts the |

1   Morgan Stanley forecasts 2024 equity returns of 4 percent.[35] Charles Schwab forecasts the

2   total returns for U.S. large and small company stocks to be 6.2 and 6.3 percent on average over

3   the next ten years.[36] These forecasts are well below the 10.5% average historic returns for U.S.

4   stocks. While actual returns may be higher or lower than investor expectations, large

5   investment institutions expect equity returns between 5 and 7 percent over both the short term

6   and the long term. The Commission should evaluate proposed ROEs within this context. My

7   ROE recommendation of 9.25 is well above the short and long term returns expected for U.S.

8   stocks,[37] and reflects a return needed for an equity investment with greater than average risk.

9   Most investors treat utilities as low risk investments, thus an ROE that reflects greater than

10   average risk should be sufficient to meet investor expectations.

11   **Q.   HOW CAN THE COMMISSION JUDGE WHETHER RETURNS ARE SUFFICIENT**
12   **TO ATTRACT CAPITAL ON REASONABLE TERMS?**

13   A.   Capital is typically attracted by issuing stock and bonds. A reasonable term for attracting

14   equity is that stock is issued at prices equal to or greater than book value. This means that

15   every dollar of equity invested in a company's assets is worth at least one dollar to investors.

16   The proxy utilities' stocks are currently priced above book value, indicating that the proxy

17   companies attract capital on reasonable terms.[38] A reasonable term for issuing debt is that debt

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[35]   Lisa Shalett. *2024 U.S. Stock Market Outlook: A Time for Balance* (2024).
https://www.morganstanley.com/ideas/us-stock-market-outlook-2024. https://www.morganstanley.com/ideas/us-stock-market-outlook-2024.

[36]   Emre Erdogan & Seth McMoore, Schwab's 2024 Long-Term Capital Market Expectations Schwab (2024),
https://www.schwab.com/learn/story/schwabs-long-term-capital-market-expectations.

[37]   This is accomplished by using conservative model assumptions, such as a 20-year transition period in the 3SDCF
model, higher than average equity risk premiums, and current bond yields rather than forecasted bond yields.

[38]   Kaufman, Exhibit LDK-5

1	is issued at interest rates that reflect investment grade credit. All of the proxy utilities have
2	investment grade credit.

3   **Q.**   **SHOULD THE COMMISSION CONSIDER AVISTA'S CREDIT RATING WHEN**
4   **SELECTING COST OF EQUITY?**

5   A.   No. Avista's credit is the result of Company-specific circumstances and does not necessarily

6   reflect the credit of prudently managed companies with comparable risks. Poor credit of

7   specific utilities should not be resolved through return on equity adders beyond that indicated

8   by a market analysis because this runs the risk of rewarding investors for poor management.

9   Further, it is not required to meet the *Hope* and *Bluefield* standard, which does not require that

10   the regulated utility itself be able to attract capital on reasonable terms, but rather that

11   prudently operated companies with similar risks can attract capital on reasonable terms. Even

12   if Avista's credit is considered to result from prudent management, Avista's credit remains two

13   steps above the threshold for investment grade ratings.

14   **a.   Three Stage Discounted Cash Flow Model**

15   **Q.**   **WHAT CHANGES DO YOU PROPOSE TO THE COMPANY'S DISCOUNTED CASH**
16   **FLOW MODEL?**

17   A.   I propose two changes: 1) consider both short and long term growth forecasts; and 2) lengthen

18   the second stage transition period from 5 years to 20 years. My first recommendation reduces

19   estimated cost of equity, but my second recommendation increases estimated cost of equity.

20   The net impact is an overall reduction in the estimated cost of equity.

21   **Q.**   **HOW DOES THE COMPANY FORECAST LONG TERM GROWTH?**

22   A.   Avista assumes long term growth is identical to short term growth and relies on analyst

23   forecasts continuing indefinitely. However, it is mathematically implausible for firms to grow

1   faster than GDP indefinitely. This is because every firm will eventually out-grow the

2   economy.

3 **Q.   WHAT GROWTH RATE DO YOU USE?**

4 A.   I assume that the long term growth of firms trends towards the U.S. GDP growth rate over 25

5   years. The U.S. CBO's GDP growth forecast is 3.64. I round this forecast up to 4 percent to

6   provide a conservatively high estimate of long term GDP growth.

7 **Q.   WHY DO YOU USE A 25 YEAR TRANSITION PERIOD TO THE LONG TERM**
8 **GROWTH RATE?**

9 A.   The second stage in the 3SDCF model reflects the transition period from short term growth

10   forecasts to long term growth rates. Some 3SDCF models use 5 years of short term growth

11   followed by 5 years of linear trend from short term rates to long term rates. However, New

12   Regulatory Finance, a widely adopted text on utility finance, advocates for a 5 year initial stage

13   followed by a 20 year transition period. This longer transition period increases my ROE

14   estimate and is conservatively high cost of capital estimate.

15 **Q.   HOW DOES THE 3SDCF MODEL ACCOUNT FOR INTEREST RATES,**
16 **INFLATION, AND EXPECTED RETURNS?**

17 A.   The 3SDCF model is based on current stock market prices. The efficient market hypothesis

18   implies that stocks which are freely traded in a liquid market reflect all existing and available

19   information. Interest rates and inflation, both current and forecasted, are available and thus

20   incorporated into the current stock price.

21 **Q.   IS A THREE STAGE DISCOUNTED CASH FLOW MODEL MORE RELIABLE**
22 **THAN A SINGLE STAGE DISCOUNTED CASH FLOW MODEL?**

23 A.   Yes. It allows earnings growth to vary over time. All firms follow a natural process of growth

24   and decline. In the maturing stage of a firm's existence, the firm naturally has a declining

1 growth rate. This is in direct conflict with the single stage DCF which prevents growth rates

2 from changing over time.

b. Constant Growth Discounted Cash Flow Model

4 **Q. WHAT CHANGES DO YOU MAKE TO THE CGDCF MODEL?**

5 A. The constant growth DCF ("CGDCF") model assumes that dividends grow indefinitely at a

6 constant rate. The Company uses short term earnings growth rates in their CGDCF model,

7 essentially assuming that short term earnings growth rates persist indefinitely. This is

8 unreasonable because the Company has provided no evidence that dividends can follow short

9 term earnings growth rates indefinitely. The Company's use of short term earnings growth

10 rates in their CGDCF model is contrary to standard economic and finance literature and

11 investor expectations. I improve on the Company's model by assuming that constant growth

12 rates equal the 30 year average growth rate rather than the short term earnings growth rate.

13 The 30 year average is based on the same growth rate assumptions used in my 3SDCF model.

c. Capital Asset Pricing Model

15 **Q. HOW DO YOUR CAPM MODELS DIFFER FROM AVISTA'S CAPM MODELS?**

16 A. I make the following two changes:

17 1. Avista relies on betas that have been adjusted towards 1. These betas are biased and grossly

18 misrepresent reasonable forecasts for utility stock betas. I use raw betas and betas adjusted to

19 the industry average, as suggested in finance literature.[39]

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[39] *Investments*, 2d ed., Prentice-Hall, Inc., Englewood Cliffs, 1981, at 344. As quoted in OPUC Docket Nos. UT 125/UT 80, Order No. 00-191 at ¶ 3, 2000 Ore. PUC LEXIS 401 at *67-*68 (Apr. 14, 2000). Michelfelder, R. A., & Theodossiou, P. (2013). Public utility beta adjustment and biased costs of capital in public utility rate proceedings. *The Electricity Journal*, 26(9), 60-68.

1   2. Avista's equity risk premium is abnormally high and relies on a biased selection of market

2   forecasts. I use two alternatives that are less susceptible to bias and more consistent with

3   investor expectations and finance literature.[40]

4 *Beta Estimation*

5 **Q.   WHAT IS BETA?**

6 A.   Beta is a measure of the correlation between an investment's return and the overall market

7   return.[41] A beta less than one typically indicates that the investment is lower risk and that

8   investors expect a return lower than the market.

9 **Q.   HOW ARE AVISTA'S ESTIMATES OF BETA BIASED?**

10 A.   Avista uses betas that are overly influenced by anomalous COVID stock market behavior and

11   that have been adjusted closer to 1 using the Bloom adjustment. I show in this testimony that a

12   small number of abnormal weeks following the spread of COVID drive Value Line betas to

13   differ from all other published betas for utility stocks. In addition, the Bloom adjustment leads

14   to poor forecasts of future utility betas. The Bloom adjustment assumes that betas trend

15   towards 1 over time. This assumption is incorrect for utility stocks. As I show later in this

16   testimony, Value Line betas have forecast bias in both the near term and the long term. Raw

17   betas and betas adjusted to the industry average are substantially less biased.

18   I conduct the CAPM using betas calculated with two changes to the Value Line

19   method: 1) exclude weeks with returns greater than 3 standard deviations from average, and 2)

20   adjust beta to industry average rather than to 1.

---

[40]   Damodaran, Aswath, Equity Risk Premiums (ERP): *Determinants, Estimation, and Implications* – The 2022
        Edition (March 23, 2022). Available at SSRN: https://ssrn.com/abstract=4066060 or
        http://dx.doi.org/10.2139/ssrn.4066060.
[41]   Technically the correlation is between excess returns, or return minus risk free rate.

1　**Q.　WHY DO YOU EXCLUDE WEEKS WITH RETURNS GREATER THAN 3**
2　**STANDARD DEVIATIONS FROM THE MEAN?**

3　A.　The Value Line betas are not consistent with other published betas, which show utility betas to

4　be well below 1. I investigated the source of this difference and determined that it is due to a

5　Value Line's unique combination of short return intervals (weeks rather than months) and a

6　historic period that is just long enough to capture COVID impacts but not long enough to

7　reflect long-term behavior. This is because COVID caused anomalous stock behavior that has

8　an outsized impact on Value Line's beta estimates.

9　Beta is typically estimated using a statistical tool called Ordinary Least Squares

10　("OLS") regression. The OLS regression selects parameters (in this case beta) that minimize

11　the squared error of the model. This means that outliers have an abnormally large impact on

12　the results of an OLS regression. The recent Value Line beta estimates for utility stocks

13　estimate betas near or above 1 because of a small number[42] of anomalous weeks where the

14　absolute value of weekly returns ranged from 12 to 17 percent.

15　**Q.　HOW DID YOU DETERMINE THAT VALUE LINE'S ABNORMAL BETAS ARE**
16　**CAUSED BY COVID?**

17　A.　I first tested the Value Line betas sensitivity to outliers using a standard method of excluding

18　data more than 3 standard deviations from the mean. The table below identifies the excluded

19　dates and the annualized equity risk premium on those dates.[43] The average raw betas for the

20　proxy group after excluding outliers was 0.70, compared to raw betas of 0.93 prior to the

---

[42]　Five of 260 weeks in the 5 year period used by Value Line.

[43]　The weekly equity risk premium is the difference between total composite return for the New York Stock
Exchange and the 30 year US Treasury Yield (sourced from Yahoo Finance using the tickers ^NYA and ^TYX.)
The weekly return is annualized by compounding over 52 weeks.

1   exclusion. I observed that all outlying events occurred within three weeks of the first U.S.

2   COVID deaths.

3   **Q.**   **WHAT ALTERNATE BETA ESTIMATION METHODS ARE AVAILABLE TO**
4   **REDUCE THE IMPACT OF COVID ON BETA ESTIMATES?**

5   A.   I considered four options:

6   1. Exclude weeks with returns more than 3 standard deviations from the mean.

7   2. Exclude data from February 2020 through April 2020.

8   3. Use monthly rather than weekly returns.

9   4. Use 4 years of data rather than 5 years of data.

10   I estimated beta using all four methods. The results of this analysis are presented below. All

11   four methods have similar beta estimates, with the average ranging from 0.65 to 0.7

1 **Table 13: Alternative Raw Beta Estimates**

Ticker	Value Line	4-year Weekly	Exclude Covid Months	5-year Monthly	Exclude Outliers
AEE	0.79	0.59	0.59	0.48	0.61
ALE	0.97	0.82	0.86	0.86	0.87
AQN	0.92	0.85	0.81	0.60	0.80
AVA	0.85	0.68	0.68	0.58	0.68
BKH	1.13	0.85	0.84	0.73	0.86
CMS	0.80	0.56	0.53	0.42	0.55
CNP	1.24	0.77	0.80	1.08	0.85
D	0.71	0.55	0.54	0.62	0.55
DTE	0.96	0.65	0.65	0.73	0.68
DUK	0.80	0.49	0.46	0.53	0.47
EIX	1.01	0.81	0.78	0.99	0.80
EMA	0.44	0.32	0.31	0.24	0.30
ETR	1.03	0.71	0.67	0.81	0.71
EXC	1.01	0.82	0.82	0.60	0.84
IDA	0.86	0.56	0.58	0.58	0.58
NWE	1.10	0.72	0.73	0.58	0.77
OGE	1.13	0.81	0.82	0.83	0.86
OTTR	1.00	0.88	0.91	0.53	0.91
PEG	0.96	0.73	0.75	0.62	0.74
PNW	0.98	0.67	0.64	0.57	0.67
SO	0.89	0.60	0.59	0.54	0.60
SRE	0.98	0.76	0.75	0.82	0.77
Average	**0.93**	**0.69**	**0.69**	**0.65**	**0.70**

2

3 **Q.   WILL THE VALUE LINE BETAS RETURN TO NORMAL SOON?**

4 A.   Yes. The Value Line betas will begin returning to the level indicated by the other four

5   methods as the COVID affected weeks roll outside the 5-year history. This will begin in

6   February 2025 and be completed in May 2025.

| 1 | Q. | **DO ANY OF YOUR ALTERNATE METHODS RETAIN 100 PERCENT OF THE** |
| 2 | | **COVID AFFECTED DATA?** |

3   A.   Yes. Using monthly returns does not exclude any COVID related data. If the Commission

4   believes that the COVID stock behavior is reasonably representative of future expectations and

5   should be given weight, the Commission should use monthly returns.

6   Q.   **WHAT BETAS DO YOU USE IN YOUR MODEL?**

7   A.   I use betas with outliers excluded. While all four alternate methods produce similar results,

8   excluding outliers resulted in the highest, and therefore most conservative, beta estimates.

9   Q.   **WHAT IS THE BLUME ADJUSTMENT USED BY VALUE LINE?**

10   A.   The Blume adjustment is a stylized adjustment grounded in research from the 1970s.[44] Beta is

11   typically estimated using a fixed historic period for data, such as the five prior years. Stock

12   betas vary over time because the historic period rolls forward through different periods. Blume

13   studied the beta of stock portfolios and estimated the relationship between betas in initial 7-

14   year period with a subsequent 7-year period. The table below reproduces his results.

15

Table 14: Reproduction of Blume Regression Results

MEASUREMENT OF REGRESSION TENDENCY OF ESTIMATED BETA COEFFICIENTS
FOR INDIVIDUAL SECURITIES

Regression Tendency Implied Between Periods	$\beta_2 = a + b\beta_1$
7/33-6/40 and 7/26-6/33	$\beta_2 = 0.320 + 0.714\beta_1$
7/40-6/47 and 7/33-6/40	$\beta_2 = 0.265 + 0.750\beta_1$
7/47-6/54 and 7/40-6/47	$\beta_2 = 0.526 + 0.489\beta_1$
7/54-6/61 and 7/47-6/54	$\beta_2 = 0.343 + 0.677\beta_1$
7/61-6/68 and 7/54-6/61	$\beta_2 = 0.399 + 0.546\beta_1$

16

17   In the table above, β's are ordinary least square estimates of beta for the corresponding time

18   periods. The Blume adjustment approximates these results by setting the a in the equation to

---

[44]   Blume, M.E. (1971), On the Assessment of Risk. The Journal of Finance, 26: 1-10. https://doi.org/10.1111/j.1540-6261.1971.tb00584.x.

1   0.33 and the b in the equation to 0.66. Thus, the Blume adjustment assumes that the OLS beta

2   in a forecasted period equals 0.33 plus 0.67 times the OLS beta in the historic period. The

3   Blume Adjustment is thus based on empirical research that is 50 years out of date, focused on

4   portfolios rather than individual equities, and that was not performed on the utility industry

5   specifically.

6   The Blume adjustment can be evaluated by considering how utility stock betas change

7   over time. To illustrate the pattern of utility stock betas, I calculated betas over a 10 year

8   period for a selection of utility stocks.[45] The figure below shows the variation in beta for

9   ALLETE, an electric utility, when calculated with OLS regression on a rolling window of 5

10   years of monthly returns.[46]

---

[45]   I selected utilities for which historic Value Line beta forecasts were publicly available.

[46]   ALLETE was selected only for illustrative purposes. The following figures illustrate the betas for all selected
        utilities.

1 **Figure 1: Beta Estimate for ALLETE**

Monthly beta estimates for example stocks using 5 years of data
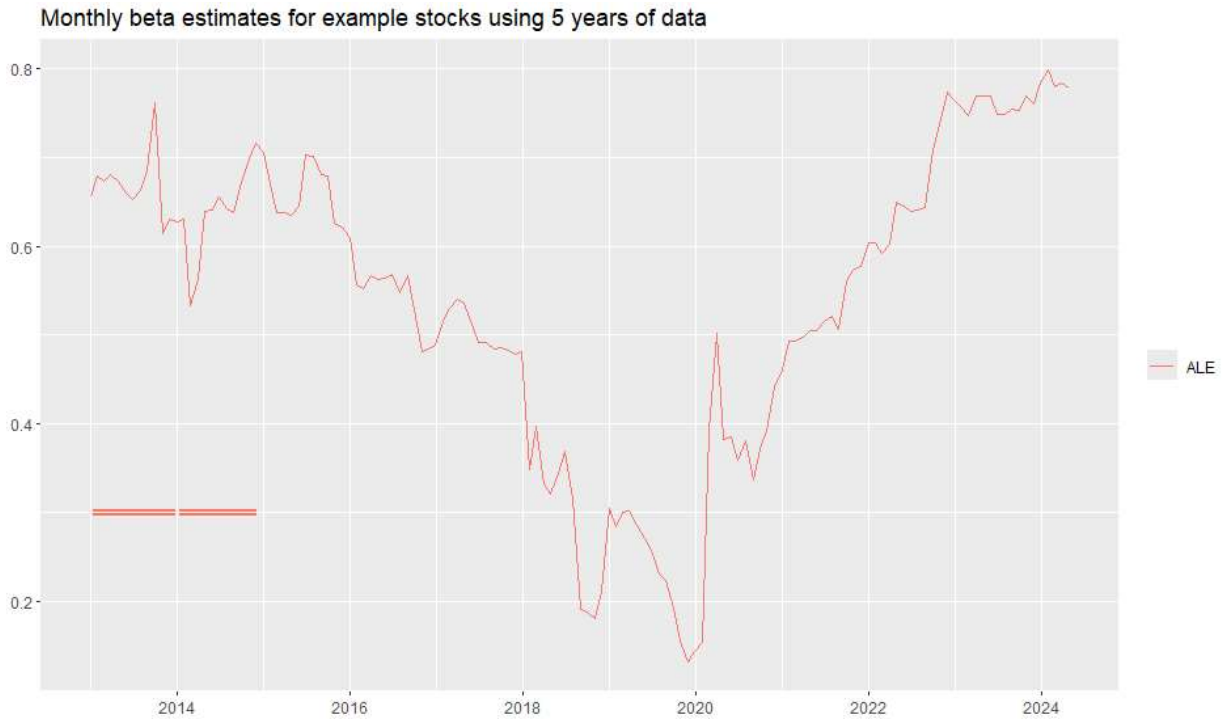
2

3   There are several factors of note in this figure. The estimate varies substantially over time,

4   ranging from 0.1 to 0.8 over less than five years. If the raw beta were used to forecast future

5   betas, and were selected at the peak of 0.8, it would clearly result in forecast error. Adjusting a

6   beta estimate of 0.8 towards the average of approximately 0.5 would increase the accuracy of

7   the forecast. Adjusting the beta towards 1, as done by the Company, would decrease the

8   accuracy of the forecast.

9   Figures 2 and 3 below show that these patterns hold for many utility stocks. Note that

10   there is not consistent movement towards 1 over time.

1   **Figure 2: Raw Beta Over Time Group 1**

Monthly beta estimates for example stocks using 5 years of data
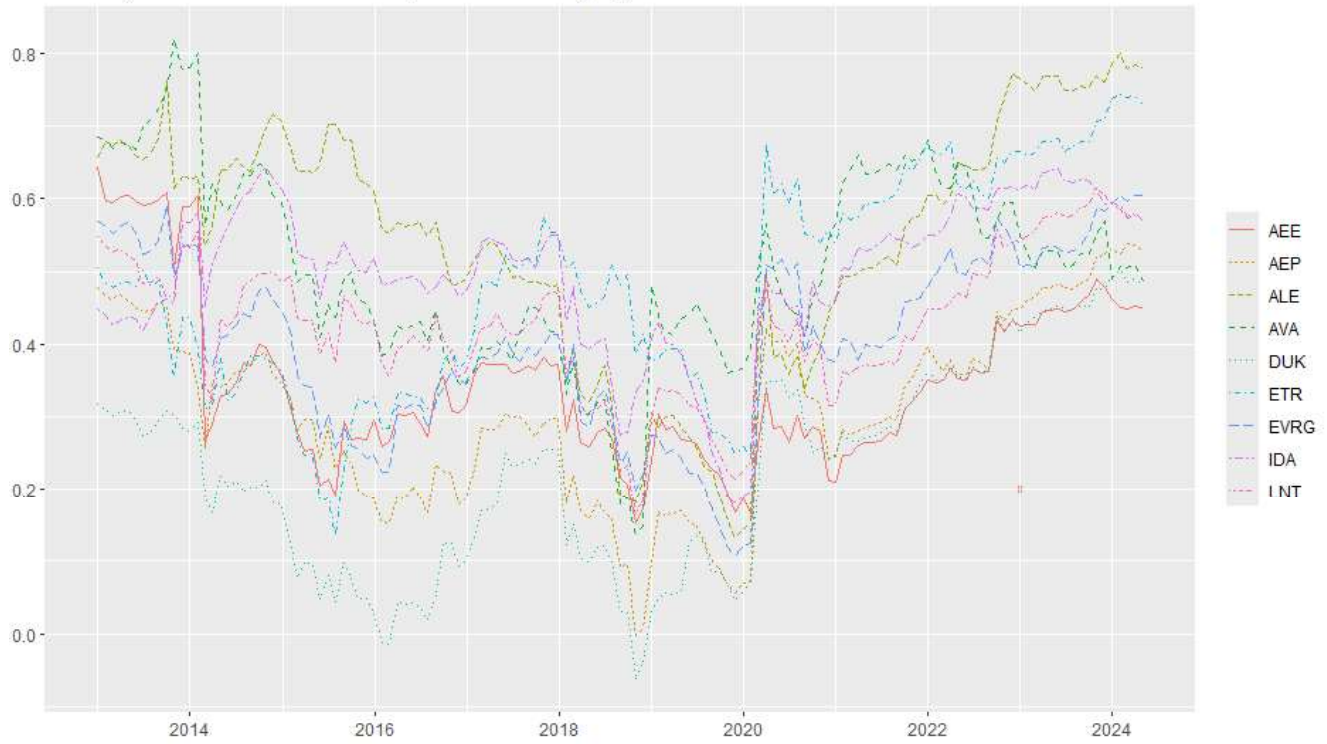
2

1   **Figure 3: Raw Beta Over Time Group 2**

Monthly beta estimates for example stocks using 5 years of data

2

3   The following patterns are apparent when examining the utility betas. First, Figures 2 and 3

4   show utility betas vary over time, but do not systematically converge towards 1. Notice that

5   betas trend down from 2014 to 2019, and while betas trend up from 2019 to 2022, this trend

6   flattens out before approaching 1. Second, beta rarely exceeds 0.7 and, on average, remains

7   well below 0.7. Third, the OLS beta both increases and decreases over time, and because of

8   this, the OLS beta provides a reasonable approximation of beta over the following year.

9   Fourth, while there appears to be some trend over time, the trend is short-lived, in that it does

10   not push industry average beta outside of the range of approximately 0.3 to 0.6. Finally, the

11   betas from 2022 to present do not trend up or down, suggesting that, at least for the current rate

12   case, the OLS beta is a very reasonable approximation of near-term future beta.

1 **Q.** **DOES VALUE LINE'S ADJUSTMENT OF UTILITY BETAS TO THE MARKET**
2 **AVERAGE INSTEAD OF INDUSTRY AVERAGE ACCURATELY FORECAST**
3 **BETAS?**

4 A. No, the Value Line betas forecasts are systematically higher than actual betas. This is because

5 adjusting utility betas towards 1 systematically and erroneously increases betas above their

6 historic values. If an adjustment is made, the adjustment should be made to the industry

7 average, not the market average. This position is supported by Nobel Laureate William F.

8 Sharpe:

9 Information of the type shown in Table 13-4 [industry average betas]

10 can be used to "adjust" historic beta values. For example, the

11 knowledge that a corporation is in the air transport industry suggests that

12 a reasonable estimate of the beta value of its stock is greater than 1.0. It

13 thus makes more sense to adjust a historic beta value toward a value

14 above 1.0 than to the average for all stocks.[47]

15 In the context of this case, the "industry" is reflected by the proxy group, betas should be

16 adjusted towards the proxy group average.

17 **Q.** **DOES VALUE LINE'S ADJUSTMENT OF BETAS TOWARDS ONE OVER-INFLATE**
18 **UTILITY COST OF CAPITAL?**

19 A. Yes. The practice of adjusting beta towards 1 overinflates utility cost of capital. As can be

20 seen in the figures above, utility stocks rarely exceed a beta of 0.7. However, Value Line betas

21 are well above this threshold. Peer-reviewed research supports my assertion that this is not

22 appropriate and inflates utility cost of capital, finding that "an empirical analysis suggests that

---

[47]   *Investments*, 2d ed., Prentice-Hall, Inc., Englewood Cliffs, 1981, at 344. As quoted in OPUC Docket Nos. UT
        125/UT 80, Order No. 00-191 at ¶ 3, 2000 Ore. PUC LEXIS 401 at *67-*68 (Apr. 14, 2000).

1   the commonly used Blume CAPM beta adjustment is not appropriate for electric and electric

2   and gas public utility betas, and may bias the cost of common equity capital in public utility

3   rate proceedings."[48] This research suggests that "adjustment to beta should be based upon the

4   likely future trend in peer group or public utility betas, or the specific utility's beta, not the

5   trend in betas for all stocks in general."[49]

6   Recall that since 2022, utility betas have been relatively flat.[50] Thus, if this advice is

7   followed, it is appropriate to make no adjustment to beta, or adjust to the current peer group

8   average without trending the average up or down.

9   **Q.   HAVE OTHER COMMISSIONS PREVIOUSLY RULED ON THE USE OF**
10 **ADJUSTED BETAS?**

11 A.   Yes. The Public Utility Commission of Oregon ("OPUC") has ruled against adjusting betas to

12   the market average.[51] The Illinoi Commerse Commission found that adjusting betas in the

13   ECAPM model produces inflated estimates of the cost of equity.[52] The California Public

14   Utility Commission has found that adjusting betas guarantees high ROE estimates.[53]

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[48]   Michelfelder, R. A., & Theodossiou, P. (2013). Public utility beta adjustment and biased costs of capital in public utility rate proceedings. *The Electricity Journal*, 26(9), 60-68.

[49]   *Id*.

[50]   Figures 2 and 3.

[51]   OPUC Docket Nos. UT 125/UT 80, Order No. 00-191, 2000 Ore. PUC LEXIS 401 (Apr. 14, 2000). The use of adjusted betas was disputed in this case. The Commission noted that "Thus, if any adjustment to the raw beta is appropriate, it should be toward the industry average rather than toward a generic average of all stocks."

[52]   "The Commission cannot recall a proceeding in which it relied upon the ECAPM in establishing the cost of common equity for a utility. In the instant proceeding, the record supports a finding that use of adjusted betas in the ECAPM is inappropriate. As Staff witness Ms. Freetly explained, by using adjusted betas she already effectively transformed her Traditional CAPM into an ECAPM. Therefore, including an additional beta adjustment in the ECAPM model would result in inflated estimates of the samples' cost of common equity." Illinois-American Water Company, ICC Order Docket No. 11-0767, at page 109 September 19, 2012.

[53]   The CPUC finds "…that empirical CAPMs tend to produce higher overall cost of capital estimates because adjusting betas upward for electric utilities, which tend to have low betas, guarantees a higher ROE." Before The Public Utilities Commission of The State of California Application 18-12-001 Decision on The Test Year 2019 General Rate Case For Liberty Utilities (Calpeco Electric) LLC page 39.

1 **Q.** **HOW DO NEAR-TERM FORECASTS USING VALUE LINE AND BLOOMBERG**
2 **ADJUSTED BETAS COMPARE TO FORECASTS USING YOUR BETAS?**

3 A. Near term (1-3 year) forecasts using Value Line betas are substantially more biased than

4 forecasts using my proposed beta measures. I compared the forecast error for Value Line beta

5 forecasts and forecasts based on an adjustment towards industry average beta. I performed

6 annual forecasts from 2013 to 2023 and compared the forecasted values to actual values for the

7 three years following the forecast. The two figures below compare these forecasts to actual

8 betas for the illustrative stock, ALLETE. Note that the Value Line beta forecasts are above

9 actual betas for nearly every forecast. This is a clear indication that, at least for ALLETE,

10 there is substantial forecast bias when the Bloom adjustment is used.

11 **Figure 4: Actual and Value Line Beta**

ALLETE Annual Three Year Ahead Value Line Beta Forecasts

12
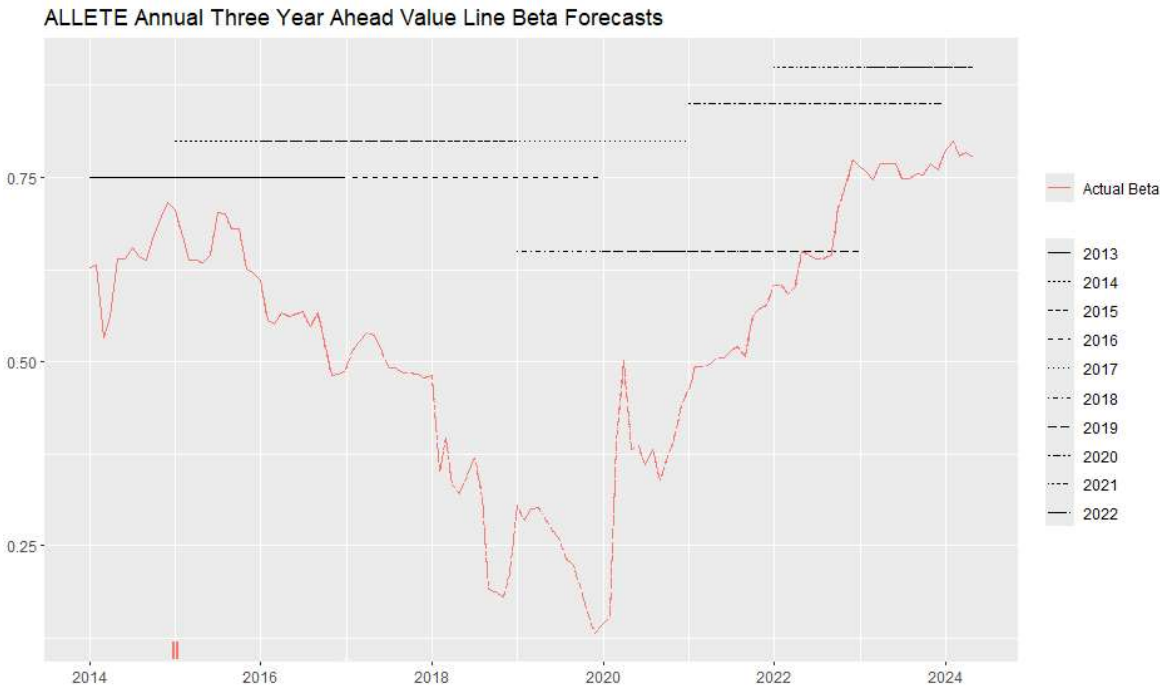
1 **Figure 5: Actual and Industry Adjusted Beta Forecast**

ALLETE Annual Three Year Ahead Industry Adjusted Beta Forecasts
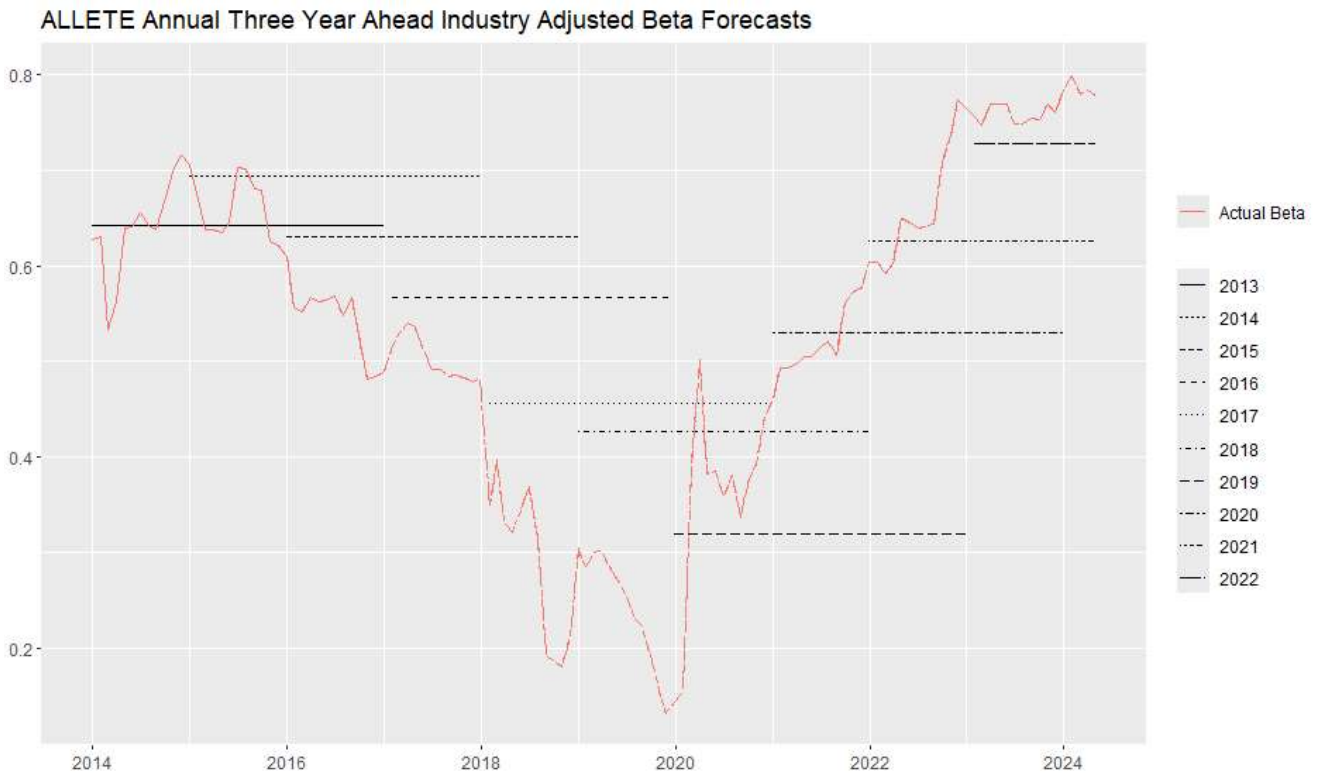
2

3 The forecasts using industry adjusted betas are clearly closer to the actual beta and fall both

4 above and below actuals in a more even manner.

5   The pattern demonstrated for ALLETE is consistent with most utilities. I used the

6 following formula to calculate a normalized forecast metric ("NFM") that identifies forecast

7 bias:

$$NFM = \frac{(Forecast - Actual)}{(Forecast + Actual)}$$

8

9 A value below zero indicates consistent under forecasting, while a value above zero indicates

10 consistent over forecasting. The NFM provides a numeric method of measuring forecast bias

11 that does not require viewing the figures presented for ALEETE. The table below reports the

1   average NFM for each year and forecast method. The Value Line forecast over forecast beta in

2   every forecast year.[54] The absolute value of NFM exceed the NFM of industry adjusted beta

3   forecasts for every forecast year.

Table 15: NFM Company and AWEC Proposed Betas

Forecast Date	Industry Adj.	Value Line
12/31/2013	0.25	0.38
12/31/2014	0.28	0.42
12/31/2015	0.28	0.48
12/31/2016	0.29	0.47
12/31/2017	0.26	0.48
12/31/2018	0.12	0.31
12/31/2019	-0.06	0.19
12/31/2020	-0.02	0.30
12/31/2021	0.02	0.26
12/31/2022	0.03	0.22
Average	0.15	0.35

6 **Q.   HOW DO YOU CALCULATE BETA FOR YOUR CAPM AND ECAPM MODELS?**

7 A.   I adjust beta to the industry average. I calculate the industry average by averaging beta for

8   Avista's peer group. The industry average beta is 0.70.[55] I then adjust betas towards the

9   industry average by weighting raw betas by 67 percent and average beta by 33 percent.

---

[54]   Values are greater than zero in every year.
[55]   I base the industry average using the Value Line OLS specification with outlier weeks removed.

1	Q.	**WHAT IS THE IMPACT OF YOUR LOWER ESTIMATE OF BETA ON ROE?**
2	A.	All else equal, a lower beta estimate for a company lowers the forecasted return for the
3		company. My recommended betas reduce the estimation of Avista's cost of common equity
4		relative to the Company's estimate.

5 *Equity Risk Premium*

6	Q.	**HOW DO BETAS RELATE TO COST OF COMMON EQUITY?**
7	A.	The CAPM model calculates cost of equity as the risk-free rate of return plus beta times the
8		equity risk premium. The risk-free rate is typically modeled using low risk bonds, such as 30-
9		year treasury bond yields. The equity risk premium is the difference between expected market
10		returns and the risk-free rate.

11	Q.	**HOW DOES AVISTA'S EQUITY RISK PREMIUM COMPARE TO THAT USED BY**
12		**INVESTORS??**
13	A.	Avista's equity risk premium is 7.3 percent. Nearly all third-party estimates of the equity risk
14		premium indicate it is between 3 and 6 percent.

15	Q.	**WHY IS AVISTA'S PROPOSED RISK PREMIUM SUBSTANTIALLY HIGHER**
16		**THAN ALL OTHER AVAILABLE ESTIMATES OF THE EQUITY RISK PREMIUM?**
17	A.	Avista relies on a model that uses short term earnings growth from a biased selection of firms
18		to forecast expected market returns. Avista's analysis is biased because it limits the analysis to
19		S&P firms with growth forecasts between 0 and 20 percent. These limits are arbitrary and
20		clearly biased because they are not symmetric around zero. By using an asymmetric selection
21		of firms, Avista systematically biases the forecast of market returns higher than what would

1   occur if a symmetric limit were applied. The only justification Avista offers for this biased

2   filter is that it was accepted by FERC in a prior case.[56]

3   A less biased approach would be to include firms with growth forecasts between -20

4   and 20 percent. I refer to this symmetric filter as the "Corrected Avista Method." While the

5   filter is symmetric, it continues to forecast a risk premium substantially higher than all other

6   available estimates of the equity risk premium because it does not account for long term

7   growth expectations. While the Corrected Avista Method remains theoretically unsound and

8   inconsistent with investor expectations, I use it in this case because it offers an improvement

9   over Avista's base method.

10   **Q.   IS AVISTA'S ESTIMATE FOR THE EQUITY RISK PREMIUM**
11   **EXTRAORDINARILY HIGH?**

12   A.   Yes. The table below summarizes estimates for the equity using a variety of methods.

13   Avista's ERP, and my corrected version with unbiased bounds, are in the first two rows of the

14   table. Avista's method is 1.3 percent higher than the next closes estimate of 6 percent.

---

56   Avista Response to AWEC Data Request 93.

1   **Table 16: Recent Equity Risk Premium Estimates**

Approach Used	ERP	Additional information
Avista Method	7.30%	S&P Weighted Growth Forecast Between 0 and 20%
Corrected PAC Method	7.10%	S&P Weighted Growth Forecast Between -20% and 20%
Kroll ERP	5.00%	Kroll's June 2024 Recommended US Equity Risk Premium
Survey: CFOs	4.42%	Campbell and Harvey survey of CFOs (2018); Average estimate. Median was 3.63%.
Survey: Global Fund Managers	4.60%	Merrill Lynch (January 2020) survey of global managers
Historical - US	5.06%	Geometric average - Stocks minus T.Bonds: 1928-2022
Historical - Multiple Equity Markets	5.00%	Average premium across 20 markets from 1900-2022: Dimson, Marsh and Staunton (2022)
Current Implied premium	4.60%	From S&P 500 - January 1, 2024
Average Implied premium (1960-2022)	4.21%	Average of implied equity risk premium
Average Implied premium (2012-2022)	5.37%	Average of implied equity risk premium
Default spread based premium	4.24%	Baa Default Spread on 1/1/23 * Median value of (ERP/ Default Spread)
Survey: Gobal Finance	5.60%	Finance and economics professors, analysts and managers of companies (2023)
Survey	3-6%	CFA 2021 ERP Forum Survey
Average (Excluding Avista Methods)	4.81%	

2   **Q.   ARE THE EQUITY RISK PREMIUMS IN TABLE 16 CONSISTENT WITH**
3   **INVESTOR FORECASTS FOR MARKET RETURNS?**

4   A.   Large institutional investors expect U.S. equities to return 5 to 7 percent.[57] Market equity

5   return is the sum of the risk-free rate and the equity risk premium. This suggests that investors

6   either expect interest rates to decrease, equity risk premiums will be at the lower range of Table

7   16, or a combination of both.

---

[57]   John Bilton, Karen Ward, & Monica Issar. *2024 Long-Term Capital Market Assumptions*, at 12 Exh. 7, https://am.jpmorgan.com/content/dam/jpm-am-aem/global/en/insights/portfolio-insights/ltcma/noindex/ltcma-full-report.pdf.; David J. Kostin, et. al *2024 US Equity Outlook:"All You Had to Do Was Stay"*, at 1, https://www.goldmansachs.com/intelligence/pages/gs-research/2024-us-equity-outlook-all-you-had-to-do-was-stay/report.pdf, Lisa Shalett. *2024 U.S. Stock Market Outlook: A Time for Balance* (2024) https://www.morganstanley.com/ideas/us-stock-market-outlook-2024, Emre Erdogan & Seth McMoore, Schwab's 2024 *Long-Term Capital Market Expectations Schwab* (2024), https://www.schwab.com/learn/story/schwabs-long-term-capital-market-expectations.

1 **Q.** **DO YOU HAVE ANY CONCERNS ABOUT AVISTA'S EQUITY RISK PREMIUM**
2 **ESTIMATE OTHER THAN ITS ABNORMAL VALUE?**

3 A. Yes. Avista's methodology assumes short term growth forecasts continue indefinitely.

4 Avista's filters exclude firms with growth above 20 percent. However, even indefinite growth

5 of 20 percent per year is highly unlikely for mature firms. For example, Avista's model

6 assumes that Marriott International, Inc. grows indefinitely at 17.75 percent per year. If

7 Mariott grows at this rate indefinitely, everyone in the U.S. will eventually be living in hotels.

8 This is clearly an unsustainably high level of growth and cannot be assumed to persist

9 indefinitely.

10 **Q.** **WHAT MEASURES DO YOU USE FOR THE EQUITY RISK PREMIUM?**

11 A. I use two measures. The first is a revised version of Avista's model using unbiased bounds

12 of -20 to 20 percent rather than 0 to 20 percent.[58] The second is the Kroll June 2024

13 Recommended US Equity Risk Premium ("Kroll ERP") of 5.0 percent. The Kroll ERP

14 provides a timely measure of the equity risk premium supported by a widely accepted

15 publisher. The results of models using the Kroll ERP should be given primary consideration

16 because the Kroll ERP is consistent with investor expectations, while the Corrected Avista

17 ERP relies on symmetric but arbitrary growth limits, remains higher than all the ERP measures

18 presented in Table 22 above, and very likely exceeds the equity risk premium expected by the

19 average investor.

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[58] I keep this measure in the interests of gradualism and conservatism. The selection of bounds at 20 percent rather than a more modest growth rate of 15 percent remains arbitrary. Even this symmetric filter retains the inherently incorrect assumption that short term forecast can model long term growth and is materially larger than the equity risk premium expected by investors.

1 **Q. CAN YOU PROVIDE MORE DETAIL ON THE VARIOUS METHODS OF**
2 **ESTIMATING THE EQUITY RISK PREMIUM?**

3 A. There are three broad approaches to estimating the equity risk premium:

4   1)   Survey of investors or other experts regarding expectations for future returns;

5   2)   Historical premium of equities over riskless investments; and

6   3)   Forward looking premiums based on current market prices.[59]

7 **Q. DO MARKET SURVEYS OF INVESTORS OR OTHER EXPERTS REVEAL**
8 **AVISTA'S PROPOSED EQUITY RISK PREMIUM IS UNREASONABLY HIGH?**

9 A. Yes. Market surveys show that the average risk premium required by investors is materially

10 lower than the forecast produced by Avista. Recent survey-based estimates of the equity risk

11 premium are available from institutional investors, corporate management, and academics.

12 The table below summarizes this data.

13 **Table 17: Summary of Investor and Finance Professional Surveys**

Date	Survey	Estimate
Feb-2007	Merrill Lynch survey of institutional investors[60]	3.5
Mar-2007	Merrill Lynch survey of institutional investors[61]	4.1
2010	Merryll Lynch survey of institutional investors[62]	3.76 to 3.9
Jan-2012	Merrill Lynch survey of institutional investors[63]	4.08
Feb-2014	Merrill Lynch survey of institutional investors[64]	4.6

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[59]   Damodaran, Aswath, Equity Risk Premiums (ERP*): Determinants, Estimation, and Implications* – The 2022 Edition (March 23, 2022). Available at SSRN: https://ssrn.com/abstract=4066060 or http://dx.doi.org/10.2139/ssrn.4066060.

[60]   Global Fund Manager Survey, cited in Damodaran (2022).

[61]   *Id.*

[62]   *Id.*

[63]   *Id.*

[64]   *Id.*

June 2020	Merrill Lynch survey of institutional investors[65]	2.5
Dec-2017	Graham and Harvey survey of CFOs[66]	3.63
Jan-2016	Graham and Harvey survey of CFOs[67]	3.55
2000 to 2017	Graham and Harvey survey of CFOs[68]	2.42 to 4.56, 3.63 average
2011	Fernandes et al. survey of Academics[69]	5.6
2022	IESE Business School survey of Academics, investors, and executives[70]	5.5
2021	CFA Institute Research Foundation[71]	3 to 6

1 **Q. WHAT RISK PREMIUM EXISTS IN HISTORIC MARKET DATA?**

2 A. The historical risk premium depends on the time period studied, method of averaging, and

3   basis for risk free rate. Damodaran, a widely published and well-respected finance researcher,

4   provides persuasive rationale for using an extended time horizon, geometric averaging, and

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[65] *Id.*

[66] Graham, J.R. and C.R. Harvey, 2018, *The Equity Risk Premium in 2018*, Working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3151162. Cited in Damodaran (2022).

[67] *Id.*

[68] Graham, J.R. and C.R. Harvey, 2018, *The Equity Risk Premium in 2018*, Working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3151162. Cited in Damodaran (2022).

[69] Fernandez, P., J. Aguirreamalloa and L. Corres, 2011, Equity Premium used in 2011 for the USA by Analysts, Companies and Professors: A Survey, Working Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805852&rec=1&srcabs=1822182. Cited in Damodaran (2022).

[70] Fernandez, Pablo and García de Santos, Teresa and Fernández Acín, Javier, Survey: *Market Risk Premium and Risk-Free Rate Used for 95 Countries in 2022* (May 23, 2022). Available at SSRN: https://ssrn.com/abstract=3803990 or http://dx.doi.org/10.2139/ssrn.3803990

[71] Laurence B. Siegel and Paul McCaffrey, Editors (2023) *Revisiting the Equity Risk Premium*. https://www.cfainstitute.org/-/media/documents/article/rf-brief/Revisiting-the-Equity-Risk-Premium.pdf.

1   U.S. Treasury bond rate as the risk-free rate.[72] This results in an equity risk premium of 5.13

2   percent.[73] Historic risk premiums have an advantage over surveys in that they are market-

3   driven, and thus are not subjective or exposed to other drawbacks of surveys. However, unlike

4   surveys, historic risk premiums are not forward looking. Implied risk premiums provide a

5   market-based approach to estimating a forward-looking risk premium.

6 **Q.**   **WHAT FORWARD RISK PREMIUMS CAN BE IMPLIED FROM MARKET DATA?**

7 **A.**   A forward-looking risk premium can be implied from current market prices and expected cash

8   flows. The risk premium is implied by the current market value for a representative index and

9   the expected cash flows from that index. Damodaran finds that the implied equity premium of

10   the trailing 12 months is the best predictor of the actual implied premium.[74] The January 2024

11   trailing 12-month implied equity risk premium is 4.6 percent.[75]

12 **Q.**   **DOES THE RANGE OF SURVEY RESULTS FOR THE EQUITY RISK PREMIUM**
13   **SHOW AVISTA'S FORECAST IS UNREASONABLY HIGH AT 8.49 PERCENT**
14   **COMPARED TO THE CURRENT IMPLIED RISK PREMIUM OF 4.6 PERCENT?**

15 **A.**   Yes. The surveys of investors and finance professionals report that the equity risk premium is

16   between 3 and 6 percent. This is consistent with the Krolls estimate of 5 percent and the

17   current implied risk premium of 4.6 percent, but substantially less than Avista's forecast of 7.3

18   percent.

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[72]   Damodaran, Aswath, Equity Risk Premiums (ERP): *Determinants, Estimation, and Implications* – The 2022
      Edition (March 23, 2022). Available at SSRN: https://ssrn.com/abstract=4066060 or
      http://dx.doi.org/10.2139/ssrn.4066060.

[73]   *Id.* at 38.

[74]   Damodaran (2022) at 131.

[75]   https://pages.stern.nyu.edu/~adamodar/pc/datasets/histimpl.xls

1 **Q.** **WHAT MEASURE OF THE EQUITY RISK PREMIUM IS RECOMMENDED FOR**
2 **USE IN SETTING RATES?**

3 A. There is no one approach to estimating equity risk premiums that is appropriate for all

4 analyses. However, generally, the current trailing 12-month implied equity risk premium is

5 more appropriate when equity markets are assumed to be functioning efficiently, when

6 predictive power is important, or when current equity needs of investors are being considered.

7 A historical risk premium or a long-term average of implied premiums is appropriate when

8 evaluating long-term capital investment decisions or when there is reason to believe that

9 current markets are over- or under-valued. Survey results are appropriate when markets are

10 assumed to be functioning poorly over an extended time.

11 In setting utility rates, the primary function of estimating the cost of equity is to provide

12 a fair return to equity investors that is sufficient to attract capital. However, utilities also use

13 approved cost of capital in long-term planning and when making capital investment decisions.

14 In an environment of well-functioning capital markets, greatest weight should be placed on the

15 current implied equity risk premium. It is also appropriate to consider current survey results

16 due to the regulatory focus on investor expectations.

17 **Q.** **DOES AVISTA APPLY THE STANDARD CAPM MODEL?**

18 A. No. The standard CAPM model only includes the risk-free rate and the market risk premium.

19 Avista adds a size premium to the standard CAPM model. Avista's size premium model is not

20 supported by peer reviewed research.

21 **Q.** **WHAT IS THE SIZE PREMIUM?**

22 A. In general, the size premium refers to a highly contested theory that small firms offer a size

23 premium that compensates investors for size related risk in addition to a market premium. The

1		presence of a size premium is not widely accepted, as the average returns to small stocks since
2		2000 has been lower than the return to large stock.
3	**Q.**	**HOW DOES AVISTA CALCULATE SIZE PREMIUM?**
4	A.	Avista use the decile size premium reported by Kroll.[76] The Kroll size premiums are
5		calculated by comparing excess returns within size groups to the excess returns predicted by
6		the CAPM model.[77] While Avista has not provided the mathematical specification for the
7		calculation of size premiums,[78] the described methodology appears to effectively be an
8		estimate of alpha, or the intercept of the size group portfolio under a standard CAPM
9		regression. Alpha is the same measure used to justify the ECAPM model, thus the size
10		premium model and the ECAPM model are not compatible.
11	**Q.**	**DO YOU RETAIN THE COMPANY'S APPLICATION OF THE SIZE PREMIUM?**
12	A.	Due to a lack of consensus on the existence of a size premium, I do not consider it necessary to
13		adjust Avista's cost of capital for a size premium. However, for completeness I report the
14		impact of including Avista's size premium adjustments to the CAPM model. I do not include
15		the size premium adjustments in the ECAPM model because the premium parameters were not
16		calculated to be applied to the ECAPM model. The ECAPM model adds a cost of capital
17		premium for stocks with betas below one. There is no evidence that this premium remains
18		after accounting for firm size. The Company was unable to provide any evidence that the size
19		Kroll size premiums are applicable to the ECAPM model.[79]
20		

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[76]   Avista Response to AWEC DR 94.
[77]   Mckenzie, Exh. AMM-3 at 19: 3- 11.
[78]   Avista Response to AWEC DR 94; Mckenzie, Exh. AMM-3 at 19: 3-11.
[79]   Avista Response to AWEC DR 94.

| 1 | | **d. Empirical CAPM** |

2 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR EMPIRICAL CAPM MODELS.**

3 A.   My ECAPM models estimate an ROE range from 8.3 percent to 9.8 percent. I recommend

4   against placing material weight on this model because it contains questionable assumptions.

5 **Q. HOW DO YOUR ESTIMATES OF THE ECAPM DIFFER FROM AVISTA?**

6 A.   I apply the same updates to betas and equity risk premium as performed for the CAPM model

7   above. Specifically, I use raw and industry adjusted betas, and an equity risk premium of 5

8   percent to 7.3 percent.

9 **Q. WHY DO YOU CHARACTERIZE THE ECAPM AS HAVING QUESTIONABLE**
10   **ASSUMPTIONS?**

11 A.   The formula Avista uses for the ECAPM, which I adopt, relies on statistical analysis performed

12   in 1989, 35 years ago.[80] It is not clear that this relationship persists in the markets today, nor

13   what type of beta estimates were used. Furthermore, it is not clear that the analysis underlying

14   the ECAPM model is applicable to the utility industry specifically. Thus, it is likely that the

15   adjustment does not reflect any real characteristics of the utility industry. While I report

16   ECAPM for informational purposes, I do not recommend giving the model results material

17   weight or consideration because it may over-estimate cost of capital, particularly when paired

18   with the Corrected Avista ERP of 7.3 percent.

19 **Q. HAS THE COMMISSION PREVIOUSLY REJECTED AVISTA'S REQUEST FOR A**
20   **FLOTATION COST ADJUSTMENT?**

21 A.   Yes. In Avista's last rate case, the Commission found that Avista failed to demonstrate that

22   Avista incurred flotation costs in the test year.[81] In this case, Avista provides evidence of

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[80]   Morin, R. A. (2006). New Regulatory Finance. Austria: Public Utilities Reports, at 190, fn. 12.
[81]   Docket UE-200900, *et al.*, Final Order 08/05 (Sep. 27, 2021) at P 96.

1		historic flotation costs,[82] but does not show that these costs were unrecovered historically.
2		Avista also fails to demonstrate that either stock issuances or flotation costs are necessary or
3		expected in the test year.
4	**Q.**	**ARE AVISTA'S FLOTATION COSTS NECESSARY?**
5	A.	No. From 2010 to 2023 Avista raised $819 million in equity through stock issuances.[83] Over
6		that same period Avista also issued $1,337 million in dividends.[84] This means that Avista
7		could have avoided flotation costs by issuing fewer dividends. One common method of
8		returning earnings to shareholders without issuing dividends is through stock buyback. Stock
9		buyback reduces the number of shares outstanding, increasing stock value. Avista's flotation
10		costs are a direct result of Avista's decision to manage its equity through dividends and
11		issuances rather than through stock buybacks and retained earnings.
12	**Q.**	**IS YOUR RECOMMENDED ROE OF 9.25 SUFFICIENT TO COMPENSATE**
13		**INVESTORS FOR FLOTATION COSTS?**
14	A.	Yes. My recommended ROE of 9.25 percent is based on many conservative assumptions, such
15		as the use of Avista's equity risk premium rather than Kroll's recommended cost of capital,
16		and the use of Avista's size premium adjustments. Both of these conservative assumptions
17		have a larger impact on the cost of capital estimates than the 8 basis point flotation cost
18		adjustment proposed by Avista. Even if my cost of capital range of 8.5 percent to 9.5 percent
19		were increased by Avista's 8 basis point flotation cost adjustment, to 8.58 and 9.58, my
20		recommended cost of equity remains unchanged at 9.25 because with the inclusion of flotation
21		costs, I would put less consideration on the other conservative model assumptions leading to

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[82]   Mckenzie, Exh. AMM-13.
[83]   *Id.*
[84]   Avista Response to AWEC DR 103 Attachment A.

1   the high end of this range. Moreover, my recommended 9.25 percent remains above the

2   midpoint of the recommended range.

3   **Q.   WHAT IS AVISTA'S WEIGHTED AVERAGE COST OF CAPITAL UNDER YOUR**
4   **RECOMMENDATION?**

5   A.   The table below summarizes Avista's weighted average cost of capital.

6   **Table 18: Weighted Average Cost of Capital**

Component	% of Total	Cost %	Weighted Ave Cost %
Long-Term Debt	51.50%	4.99%	2.570%
Common Stock Equity	48.50%	9.25%	4.486%
	100.00%		7.056%

7

8   **Q.   DOES THIS CONCLUDE YOUR OPENING TESTIMONY?**

9   A.   Yes.

10